AMERICAN VOCATIONAL JOURNAL

STATE LIBRARY
SEP 20 1946
INDIANA

VOLUME 21 NO. 7 • SEPTEMBER 1946

U. S. D. A. Photograph by Madeleine Osborn

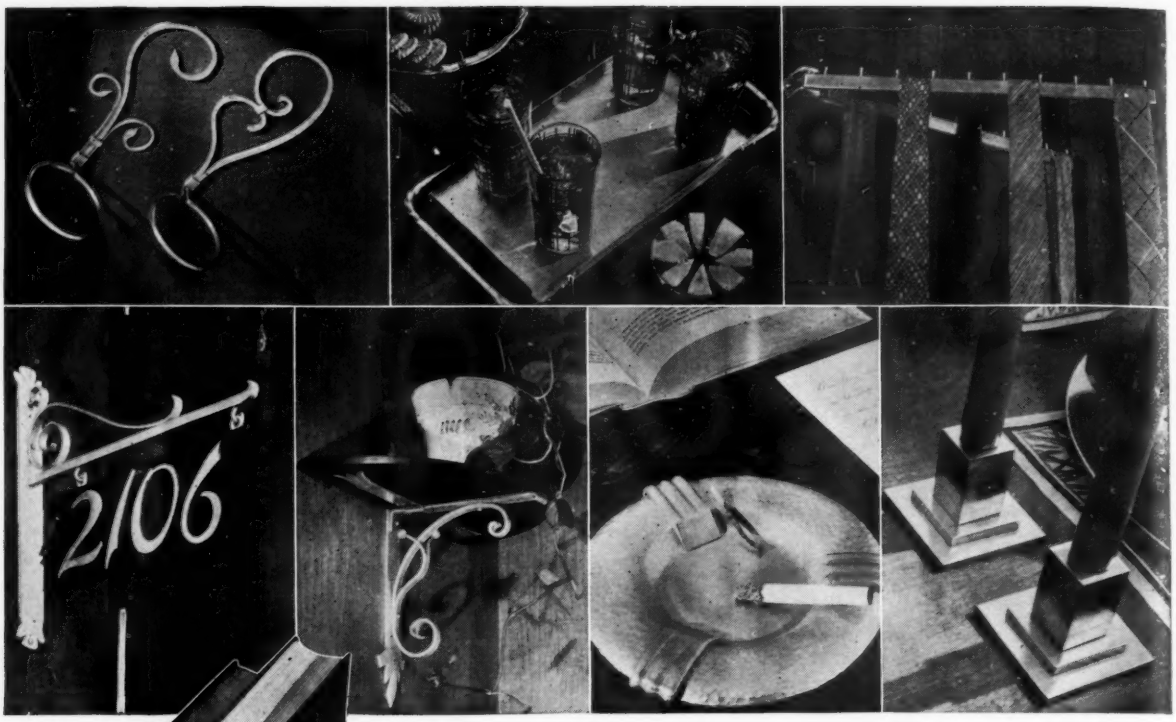
North Dakota Grain for the World

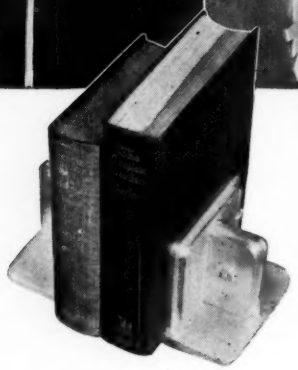
371.42
A512N
Vol 21
No 7

Future of Visual Education Movement

Congress Passes Vocational Education Bill

American Vocational Association Convention, December 4-7, St. Louis





Cash awards

for ALUMINUM PROJECTS

will pay off big in years to come

Aluminum, the foremost *light metal*, faces a bright future. Its uses are rapidly increasing in many different industries.

Your Industrial Arts students who learn to work with it now will be able to make good use of their knowledge when they are through school. Interest them in aluminum through the Scholastic Industrial Arts Awards, sponsored by Scholastic Magazine and Aluminum Company of America.

They will find aluminum easy to work and shape. The choice of projects is wide because of the many forms in which aluminum is available — ingot, sheet, plate, tubing, wire, rod, bar, and extruded shapes — and because aluminum lends itself to every metal-working method.

The useful and artistic articles shown here are but a few of many that students will enjoy making.

For information on aluminum, write ALUMINUM COMPANY OF AMERICA, 1772 Gulf Bldg., Pittsburgh 19, Pennsylvania.

HERE ARE THE 36 PRIZES FOR

Aluminum Projects

in Scholastic Industrial Arts Awards

*

GROUP I—Junior High Schools. First Prize, $50; Second Prize, $25; Third Prize, $10; nine Honorable Mentions, $5 each.

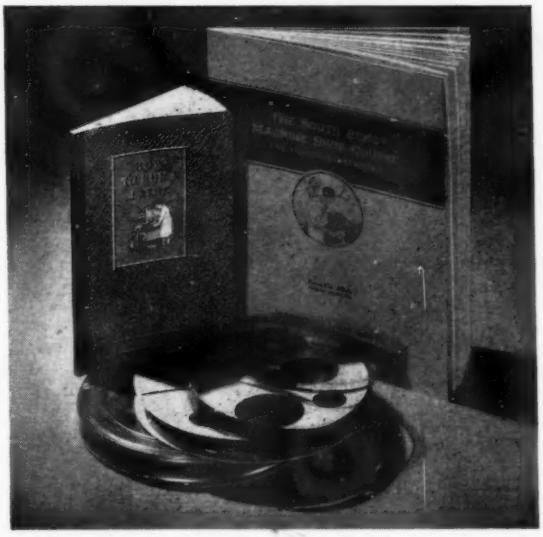
GROUP II—High Schools offering less than 10 hours per week. First Prize, $50; Second Prize, $25; Third Prize, $10; nine Honorable Mentions, $5 each.

GROUP III—High Schools offering more than 10 hours per week. First Prize, $50; Second Prize, $25; Third Prize, $10; nine Honorable Mentions, $5 each.

ALCOA FIRST IN ALUMINUM

For the Rules Booklet for Scholastic Industrial Arts Awards, write to: Scholastic Awards, 220 E. 42nd St., New York 17, N. Y.

YOU'LL WANT THESE
VALUABLE TEACHING AIDS

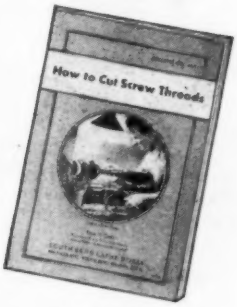


Used as teaching and study aids, this material will simplify teaching and help you to train better lathe operators. Sample copies of booklets will be mailed without charge on request from any school shop instructor or supervisor.

"SOUTH BEND MACHINE SHOP COURSE"—Widely used by leading schools for instruction in machine shop practice. Thirty-two pages, size 8½″x11″. Includes working drawings for projects.

"HOW TO RUN A LATHE"—Complete manual and reference book on the operation and care of the back-geared, screw-cutting lathe. 128 pages 5⅛″x7⅞″, 360 illustrations.

FILMS—Based on "How To Run a Lathe" book—in black and white, or color. Available on loan or purchase basis. Write for information.



"HOW TO CUT SCREW THREADS"

Gives step-by-step instructions for cutting screw threads in the lathe. Contains 24 pages, 82 illustrations.

"HOW TO GRIND CUTTER BITS"

A useful, highly informative book which explains and illustrates in detail how to grind and sharpen lathe tool cutter bits. Contains 16 pages, 51 illustrations. Size 6″x 9″.

FOUR BULLETINS ON THE CARE OF THE LATHE

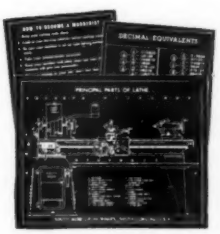
Each booklet deals with one phase of lathe care essential for satisfactory lathe performance. Booklets will be supplied in reasonable quantities without charge to school shop supervisors and instructors.

BULLETIN H-1—"KEEP YOUR LATHE CLEAN"—tells how, why, and with what to clean the vital parts of the lathe. Contains 16 pages, 19 illustrations. Size 6″x9″.

BULLETIN H-2—"OILING THE LATHE"—explains where, how, and with what oil to lubricate the lathe. Size 6″x 9″, 16 pages, 19 illustrations.

BULLETIN H-3—"THE INSTALLATION AND LEVELING OF THE LATHE"—gives instructions for installing and leveling the lathe correctly. Contains 20 pages, 20 illustrations. Size 6″x9″.

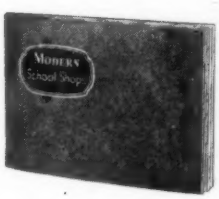
BULLETIN H-4—"KEEP YOUR LATHE IN TRIM"—gives instructions for making necessary adjustments, checking power supply, and keeping the lathe in best operating condition. Contains 32 pages, 39 illustrations. Size 6″x 9″.



BLUE PRINT WALL CHARTS

Large simulated blueprints, suitable for framing, show the parts of the lathe, decimal equivalents of fractions up to 1-inch, and 17 "Pointers" on "How To Become A Machinist." Sample copies free on request.

"MODERN SCHOOL SHOPS"



A booklet prepared for those interested in modern school shops and their machine equipment. Shows many fine installations in all types of large and small school shops. Size 11″ x 8½″, 24 pages.

FILL IN, TEAR OUT, AND MAIL THIS

HANDY ORDER FORM

TO GET THESE FREE TEACHING AIDS

SOUTH BEND LATHE WORKS
465 E. MADISON STREET
SOUTH BEND 22, INDIANA

Gentlemen: Please mail—free, postpaid, and without obligation—the material I have designated below:

- ☐ "SOUTH BEND MACHINE SHOP COURSE"
- ☐ "HOW TO RUN A LATHE"
- ☐ FILM LOAN INFORMATION (CIRC. 21-E)
- ☐ "HOW TO CUT SCREW THREADS"
- ☐ "HOW TO GRIND CUTTER BITS"
- ☐ LATHE BULLETINS H-1, H-2, H-3, & H-4
- ☐ SET OF 3 BLUE PRINT WALL CHARTS
- ☐ "MODERN SCHOOL SHOPS"
- ☐ COMPLETE SOUTH BEND LATHE CATALOG

PRINT PLAINLY, PLEASE

Name & Title_____

School_____

Street Address_____

City_____ State_____

SOUTH BEND LATHE WORKS
465 EAST MADISON STREET • SOUTH BEND 22, INDIANA
LATHE BUILDERS SINCE 1906

When writing advertisers please mention *American Vocational Journal.*

* Out in California, Frank Hegemeyer has made a profitable full-time job out of his life-long hobby — hand-made reproductions of Early American and Colonial furniture.

IT'S A HOBBY—IT'S A BUSINESS!

IT'S A PLEASURE WITH X-ACTO!

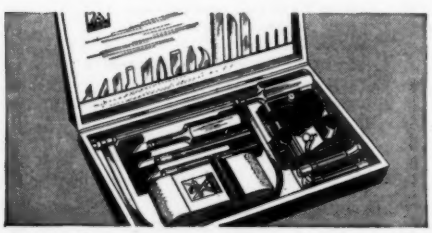
*AND in his work he finds X-acto hobby knives "of untold value". With the help of X-acto, Mr. Hegemeyer has filled his home with beautiful furniture . . . created material for his fascinating how-to-do-it articles . . . and had a whale of a lot of fun!

Expert Hegemeyer has high praise for the way X-acto blades "hold a keen cutting edge over a long period . . . and their adaptability to the many types of cutting jobs encountered in my shop." No wonder! For X-acto gives you

13 Blade Shapes—Quickly Interchangeable...

of fine surgical steel, scalpel-sharp. *Three all-metal handle styles.* (No more substitute plastics!) X-acto's safety grip and easy control make it the ideal knife for experts *and* beginners . . . for paper, leather, wood, plastics. If you build models, whittle, carve, or just fix things around the house, you'll turn out better jobs with X-acto. And have *more fun!*

ALL METAL
X-acto No. 2 Solid Duraluminum Knife . . . **50c**
With 5 assorted blades, $1. Other X-acto Knives, Tools, Chests, 50c to $12.50.



It's Got Everything! No. 85 X-acto Tool Chest — 3 all-metal knives; full assortment of blades; saw; sander; stripper; planer; drills and holders; steel ruler; complete in wooden chest, $12.50.

X-acto*
KNIVES & TOOLS
At hardware, hobby and gift shops

SAMPLE OFFER. Write on your school letterhead for catalog, sample offer and free copies of a series of helpful X-acto booklets.

X-acto Crescent Products Co., Inc., 440 Fourth Ave., New York 16, N.Y.
In Canada: Handicraft Tools, Ltd., Hermant Bldg., Toronto

**Reg. U. S. Pat. Off.*

When writing advertisers please mention *American Vocational Journal.*

AMERICAN VOCATIONAL JOURNAL

VOLUME 21 SEPTEMBER 1946 NUMBER 7

IN THIS ISSUE

EDITORIAL ADVISORY COUNCIL
W. F. STEWART, Chairman
JOHN A. McCARTHY
ANNA K. BANKS

EDITOR-IN-CHIEF
L. H. DENNIS

MANAGING EDITOR
GEORGE H. FERN

CONTRIBUTING EDITORS
CARSIE HAMMONDS, Agricultural Education
University of Kentucky
Lexington, Kentucky

M. A. BROWNING, Business Education
State Board for Vocational Education
Austin, Texas

LETITIA WALSH, Home Economics Education
University of Illinois
Urbana, Illinois

E. E. ERICSON, Industrial Arts Education
Santa Barbara College
Santa Barbara, California

H. M. JELLISON, Industrial Education
Board of Education
Akron, Ohio

R. L. WELCH, Part-Time Education
State Board of Vocational and Adult Education
Madison, Wisconsin

C. E. PARTCH, Vocational Guidance
Rutgers University
New Brunswick, New Jersey

O. F. WISE, Vocational Rehabilitation
Court House
Birmingham, Alabama

PUBLISHING SERVICES
Furnished by Scholastic Magazines:
220 E. 42nd St., New York 17, N. Y.
Don Layman, Publisher
George H. Fern, Managing Editor
Harriett H. Carr, Editorial Assistant
Richard Whiteman, Advertising Representative
Mary Jane Dunton, Art Editor

AVA Officers 6
Developing AVA Membership, by C. L. Greiber 6
Future of the Audio-Visual Movement, by C. R. Crakes 7
Students' Backgrounds Differ, by George P. Deyoe 8
New Classroom Charts for Aviation Programs, by N. L. Englehardt . 10
A Toy Repair Corps, by Agnes Brady 12
Help for Housing Worries, by Grace Harris 12
Representative Advisory Committees Prove Value, by C. E. Rakestraw 13
3-Way Visual Aids Program, by John M. Amiss 14
A Charter for Young Workers, by Margaret Stewart 16
Standards for Visual Aids 18
Retail Institutes are "The Business", by Louise Bernard 19
Adults Said They Got Results, by Fran McCreery 20
Vocational Education in the Postwar World, by Raymond W. Gregory 21
Apprenticeship Agreements, by C. L. Greiber 22
Youth Mobilized for Famine Relief 22
Vocational Education Bill Passed, by L. H. Dennis 23
AVA Convention to St. Louis, by L. H. Dennis 24
Washington Reporting 24
Labor, Management and Education Speak, by H. H. London and Ivan Hostetler 25
Vocational Outlook 30
1947 National Industrial Arts Fair 33
Testimonial to Frank Cushman 34
Look Over Your Farm Shop, by George Vapaa 35
Have You Tried This? by J. T. Raiford 36
With the Associations 37
Salesmen Trained with Visual Aids, by J. De Jen 37
New Teaching Aids 38
Industry Presents 42
New Jersey Working on State Plan Revision 44
E. F. Riley Honored by North Dakota 44
Model Planes Placed in the Smithsonian 44
Michigan, Oregon, and Hawaii Name Directors 44
Missouri Recruiting Homemaking Teachers 44
Real Values from Home Mechanics, by Thaddeus J. Lubera . . . 45
Home Economics Goes on the Air, by Alice Strawn 45
Industrial Arts Teachers' Ranks Now Reinforced, by Emanuel E. Ericson 45
Visual Education Directory 46
Rural School Charter Day, by Carsie Hammonds 47
Sound in Moving Pictures Opened New Vocations 47
Who's Who 48
In Tribute 48
Visual Aids May Replace Instructors for Retailers 48
AVA Publications 49
Products and Services Guide 49
What Do You Think? by George H. Fern 50

The Cover

More than 87 per cent of North Dakota's acreage is farm land, and in many years its wheat production has held top rank in the U.S. In 1945, this state produced 161,888 thousands of bushels of wheat; 53,769 thousands of barley. The total national wheat production was 1,123,143 thousands of bushels.—H.H.C.

THE AMERICAN VOCATIONAL JOURNAL IS PUBLISHED MONTHLY, SEPTEMBER TO JUNE INCLUSIVE, BY THE AMERICAN VOCATIONAL ASSOCIATION, INC. AT 220 EAST 42ND STREET, NEW YORK 17, N. Y. ENTERED AS SECOND CLASS MATTER JANUARY 29, 1945, AT THE POST OFFICE AT NEW YORK, N. Y., UNDER THE ACT OF MARCH 3, 1879. CONTENTS COPYRIGHTED 1946 BY AMERICAN VOCATIONAL ASSOCIATION, INC. ALL MEMBERS OF THE AMERICAN VOCATIONAL ASSOCIATION, INC. RECEIVE THE JOURNAL. MEMBERSHIP APPLICATIONS SHOULD BE SUBMITTED THROUGH STATE VOCATIONAL ASSOCIATION SECRETARY. SUBSCRIPTION PRICE FOR LIBRARIES AND NON-MEMBERS $2.00 A YEAR, SINGLE COPIES 25¢. EXECUTIVE OFFICES AT 1010 VERMONT AVENUE, WASHINGTON 5, D. C. ADVERTISING, EDITORIAL, AND PRODUCTION HEADQUARTERS ARE AT 220 EAST 42ND STREET, NEW YORK 17, N. Y. THIS IS THE OFFICIAL PUBLICATION OF THE AVA.

American Vocational Association, Inc.

American Vocational Association, Inc., advances American education by developing economic competence of youths and adults. The Association promotes the professional interests of persons engaged in vocational and industrial arts education. It encourages full-time and part-time programs in these fields: Agriculture, Home Economics, Business and Distributive Occupations, Industrial Arts, Industrial Education, Rehabilitation, Vocational Guidance.

Developing AVA Membership

ALL of us who are engaged in the field of vocational and industrial arts education have an obligation to keep constantly abreast of all new developments in our particular fields. We have an obligation to assure the youth and adults who invest time in training, of the very best returns from this investment. Throughout the country new ideas are being tried, new techniques of instruction and new materials are being developed constantly. Unless there is some means wherby the gains made by some may be shared by all, progress will be woefully slow.

The American Vocational Association serves as the medium through which progress in vocational education may be shared. It is the only professional organization that has the further development and improvement of vocational education as its sole concern. Through the official publication of the AVA, *The American Vocational Journal*, opportunity is given for free dissemination of information among its membership. At the annual meeting, outstanding leaders in vocational education participate in the various programs. Committees have been set up in many areas and are working actively toward the further development of the program in the field of work of their interest.

Following are a few of the benefits that membership in the AVA offers:

The Association keeps the over-all ideals and purposes of vocational education alive and in the foreground. Since all over the U.S. vocational education varies as to the regional set-up and implementation, the Association serves as a unifying influence. The Association provides mass opinion and support for improvements in the field which are offered to it by means of the spoken word and by publication. The Association assures an opportunity to pool and launch new ideas toward progress in the field of vocational education. The Association gives personal and professional protection and guidance through its concern in such matters as salary, professional improvement, and retirement. The Association provides members with the *American Vocational Journal*, an informative monthly magazine, which also carries information through its advertising of new materials, equipment, and methods in the field of vocational education.

If you know persons working in the field of vocational education or industrial arts who are not now members, urge them to join. Membership in the Association is affiliation with an organization foremost in fostering and promoting training programs for youth and adults so that they may intelligently make a living and contribute most fully to local, state, and national economy.

C. L. Greiber
President, American Vocational Assn.

OFFICERS

C. L. GREIBER
President
State Bd. for Voc. and Adult Education
Madison 2, Wis.

L. H. DENNIS
Executive Secretary
American Vocational Association, Inc.
1010 Vermont Ave., N. W.
Washington 5, D. C.

CHARLES W. SYLVESTER
Treasurer
2811 Mt. Holly St., Baltimore 16, Md.

M. D. MOBLEY
Past Pres., Voc. Guidance
State Dept. of Education, Atlanta 3, Ga.

IRA W. KIBBY
V. P., Business Education
State Dept. of Education, Sacramento 14, Cal.

ANNA K. BANKS
V. P., Home Economics Education
New York University, New York, N. Y.

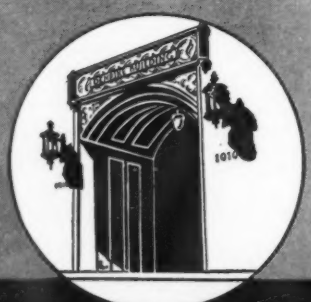
H. C. FETTEROLF
V. P., Agricultural Education
State Dept. of Pub. Instruction
Harrisburg, Pa.

GEORGE H. FERN
V. P., Industrial Education
American Vocational Journal
1010 Vermont Ave., N. W.
Washington 5, D. C.

GRACE M. HENDERSON
V. P., Part-Time Schools
University of Arkansas, Fayetteville, Ark.

CLAUD M. ANDREWS
V. P., Vocational Rehabilitation
State Dept. of Education, Tallahassee, Fla.

FRANK C. MOORE
V. P., Industrial Arts Education
Cleveland Public Schools, Cleveland 14, O.



Send orders for publications, American Vocational Journal subscriptions, changes of address, requests for information to:

AMERICAN VOCATIONAL ASSOCIATION, INC., 1010 Vermont Ave. N.W., Washington 5, D. C.

Make all checks payable to the American Vocational Association, Inc.

The Future of the Audio-Visual Movement

By C. R. CRAKES

Educational Consultant, DeVry Corporation, Chicago, Ill.

THERE are several important reasons why the audio-visual movement is the most powerful to confront American education. Potent among them is the fact that millions of returning veterans, familiar with the audio-visual materials used in their military training, now are interested in the teaching techniques of the schools. Their reactions will have tremendous influence on educational leaders.

The schools today face the task of helping both youth and adults to think in terms of international relationships, and to understand the peoples of the far corners of the earth. The motion picture will be the dominant factor in this significant undertaking, bringing Americans face to face with living conditions and experiences of citizens of other nations.

Industry has learned the effectiveness of audio-visual aids in training personnel, and will encourage educators to make wider use of such teaching tools, particularly in vocational programs.

Guidance programs will be more effective and will meet with greater favor when supplemented with accurate audio-visual information. Adult education can be materially improved by the same means.

Within the next two years at most, all forms of audio-visual teaching materials will be widely accepted as supplements to other classroom teaching devices. To each will be assigned the job for which it was designed, including the flat picture, the stereoscope, 3¼x4 slides, 2x2 slides, film strips, transcriptions, silent and sound motion pictures.

Universities, colleges, and normal schools will establish teacher-training classes in the field of audio-visual aids. Teachers will learn how to evaluate and select the various forms of teaching materials, for evaluative criteria will have been established.

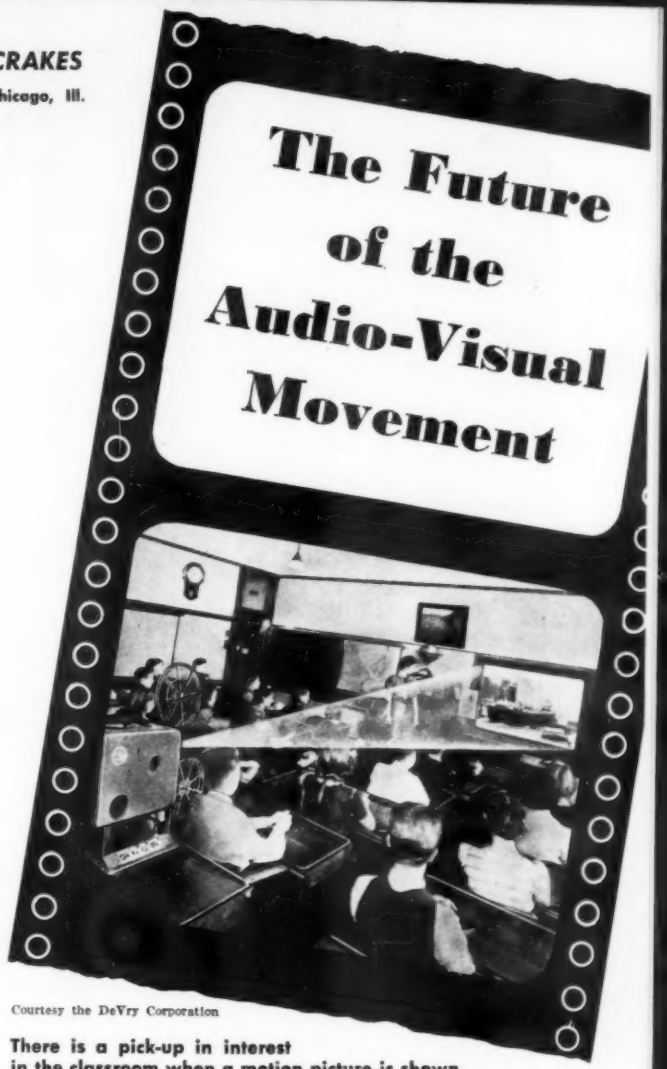
Content of audio-visual material will be planned by teachers or other authorities familiar with the subject matter and with the art of teaching. It will become authoritative and tailored to classroom use.

Buildings will be properly designed to house audio-visual departments. This may be accomplished by equipping classrooms for the full use of such teaching aids or equipping one centralized room in each building to serve as a projection room. Architects and school administrators already are giving serious attention to such equipment and school design.

The classroom teaching film will not average more than 400 feet, and probably will be of less footage in many cases. A maximum of ten minutes is sufficient to present audio-visual material in any one class period.

Individual classroom teachers will acquire a mastery of the proper techniques of using each form of audio-visual teaching device. Proper use of these teaching tools now is the Number One problem. They never should be used in isolation, but always supplementary to other teaching material.

Sound motion pictures will have less commentary and more natural sound. Commentators will use a vocabulary understood by the age and grade level of students for whom the film was planned. Neither will the commentator carry on a continuous lecture; there will be plenty of pauses to give pupils an opportunity to concentrate and to think about the picture they are viewing.



Courtesy the DeVry Corporation

There is a pick-up in interest in the classroom when a motion picture is shown

Individual school systems will develop their own libraries of basic teaching films and other types of audio-visual materials, leaving the larger rental bureaus to handle more specialized and expensive forms of teaching aid.

Schools will produce many of their own basic classroom teaching materials.

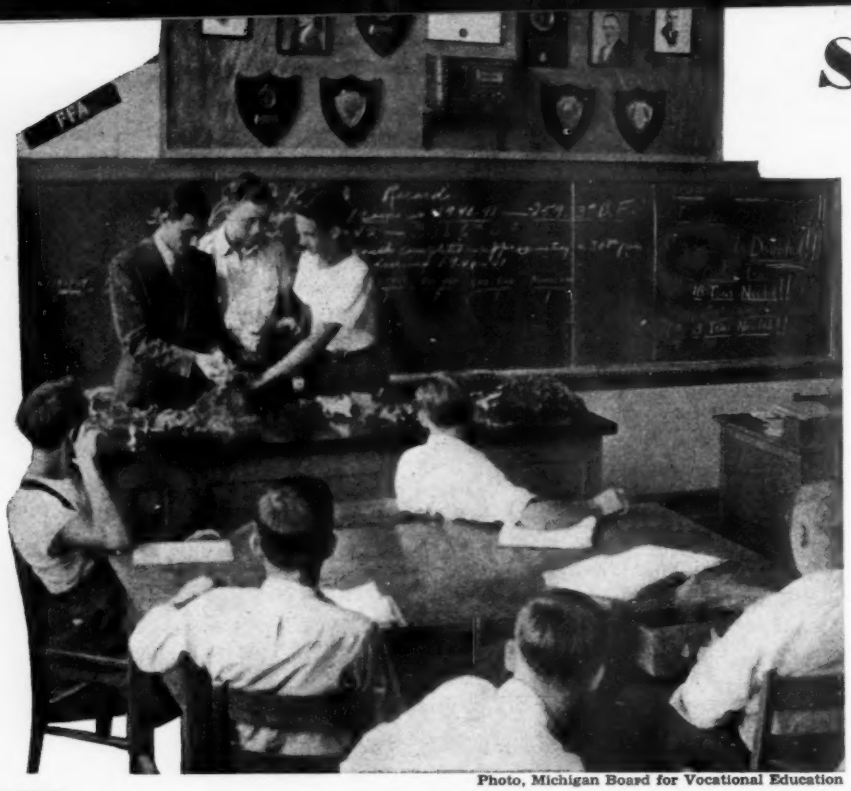
More research will be done in colleges and universities on use of audio-visual teaching materials.

To be truly professional, teachers must use the best tools available in their endeavor to train youth to be efficient citizens. Audio-visual teaching materials will be generally included among the more effective and functioning classroom training devices.

Editor's Note: A review of the address given by Mr. Crakes at the American Vocational Association Convention, Buffalo, N. Y., 1946.

Students'

Instruction in Vocational Agriculture Should Be Adapted to Individual Differences

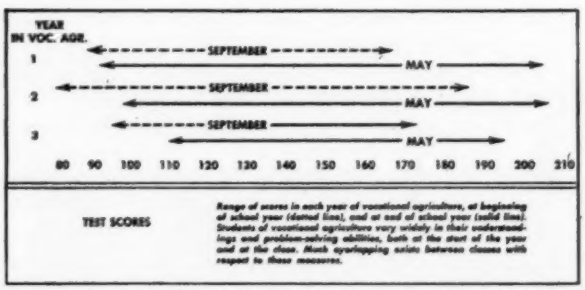


Photo, Michigan Board for Vocational Education

Student differences can receive attention during discussion in class, in laboratory activities and during supervised study

BOYS differ in their backgrounds of knowledge and skills connected with farming, as teachers of vocational agriculture are generally aware. Many teachers, however, have very little specific information on the nature and extent of these differences from student to student; or if they do, it is acquired only after a fairly long association with the students. Information of this type should be secured as soon as possible after the boy enrolls in vocational agriculture for the first time, if it is to be of most use in instruction. After individual differences are recognized, attention should be given to them in the instructional activities for which the teacher is responsible.

To demonstrate one approach to analyzing individual differences between students in vocational agriculture, a special study was undertaken which included all students enrolled in three classes or years of agriculture in each of three departments of vocational agriculture in Michigan. Use was made of a "pencil-and-paper" type of test, designed to measure understandings and problem-solving ability in live-stock production. One form of this test was administered near the first of the school year, and an equivalent form was administered near the end of the same school year. Thus it was possible to measure individual differences at two specific times during the year, and also to determine the differences in growth during the intervening period. It is recognized that the use of tests of this kind represents only one approach to the study of individual differences and growth. The data are of considerable value, however, for the purposes of this study.


YEAR IN VOC. AGR.
1
SEPTEMBER
MAY
2
SEPTEMBER
MAY
3
SEPTEMBER
MAY
80 90 100 110 120 130 140 150 160 170 180 190 200 210
TEST SCORES
Range of scores in each year of vocational agriculture, at beginning of school year (dotted line), and at end of school year (solid line). Students of vocational agriculture vary widely in their understandings and problem-solving abilities, both at the start of the year and at the close. Much overlapping exists between classes with respect to these measures.

In the table at the lower right data are shown which reveal some of the differences between individuals studied, both with respect to status at any one time and with reference to growth over a period of time. The figures show, for example, that the average September score for the boys in the first year of agriculture was 111.5 and the May score was 145.5, with a range of 89 to 168 in the former, and 92 to 203 in the latter. The average numerical gain was 34.0 and the average per cent of gain was 30.5. For each succesSsive year, the average scores were progressively higher, but the per cent of gain was progressively less.

As the table shows, a wide range exists between the students in each class or year in vocational agriculture; considerable overlapping occurs between the students in different class groups, furthermore. Some students in the first year rank above certain students in the third year of agriculture. At the end of their first year some students rank above the highest outgoing senior.

A study of the growth of students during the year reveals wide differences. The third of the students

Backgrounds DIFFER

By George P. Deyoe

Professor of Education
Michigan State College
East Lansing, Michigan

Conference periods are helpful for certain types of instruction with both individuals and small groups

The home-farm visit is one of the best ways to adapt instruction in agriculture to individual differences

gaining the most averaged 51.1 per cent gain, while the third gaining the least averaged only 3.6 per cent gain during the year. In all, nearly one-fourth of the students made less than a 10 per cent gain. There was less gain, in general, by students who scored high at the beginning of the year than by low-scoring students.

Data gathered in the study emphasize the wide spread in individual differences and in growth which are likely to exist in a class or group of students in vocational agriculture.

Once individual differences are noted, the problem still remains of doing something about them. In general, teachers err in one of the three following ways: (1) They may ignore these differences entirely and teach on a level effective for the average student, (2) they may overcompensate for either extreme by giving far more attention to either the dull or the bright, or to exploiting the gifted, or (3) they say give haphazard attention to individual differences.

Obviously, no one of these procedures is acceptable. Perhaps it is correct to say that teachers of vocational agriculture are, in general, doing more than many others to take care of individual differences; but if so it can be said also that they have conditions in terms of class size, room facilities, length of periods, home-farm contacts, etc., which are favorable factors.

The following represent some of the practices already used which have promising possibilities:

1. Organize course materials around units or broad divisions which provide problems and experiences for the class as a whole, together with opportunities for individuals to make applications in solving specific problems for their own supervised farming programs.

2. Encourage each boy to develop a supervised farming program in keeping with his capabilities, with due consideration to the opportunities on his home farm. In some cases, expansion is possible through activities on rented facilities, or through other activities on nearby farms.

3. Utilize individual boys who have special abilities as assistants or in other ways, in group instruction and laboratory work, being careful not to exploit or favor them unduly.

4. Encourage boys with special abilities to probe more thoroughly than average or below-average students in various problems or phases of the subject. Utilize results of these special studies by having the boys contribute to the group discussion at appropriate times.

5. Make effective use of supervised study to render individual assistance and provide motivation to each student to achieve in keeping with his level of development and capacity.

6. For certain phases of the course, plan highly individualized assignments with the students in keeping with varying individual differences.

7. Utilize home-farm visits as teaching situations in which the instruction or other assistance is pitched to the appropriate levels for the individual student.

8. Utilize conference periods to individualize certain phases of instruction, in keeping with special interests and capabilities of the students.

Individual Differences
Shown by Scores Secured in September and May

Year in Voc. Ag.	No. of Boys	Average Scores		Range in Scores		Av. Gains from Sept. to May	
		Sept.	May	Sept.	May	Numerical Gain	% Gain
1	22	111.5	145.5	89-168	92-203	34.0	30.5
2	27	123.3	154.0	81-187	98-204	30.7	24.9
3	18	138.4	160.2	96-173	111-195	21.8	15.8
All	67	123.5	152.9	81-187	92-204	29.4	23.8

New Classroom Ch

THE value of wall charts for instructional purposes has been well-proven for they were one of the first visual aids used in education. The new set of aviation charts reproduced on these pages meets high standards of attractiveness and is educationally useful, especially in industrial arts and vocational classes.

There are six charts in the series, covering *The Air Ocean, Meteorology, Aircraft, Aerodynamics, Navigation,* and *Radio Navigation.* The charts are large, 35" x 47" providing classroom visibility, and are printed in five or more colors, serving to highlight important elements and to hold the interest of pupils. The accuracy of the detail has been assured by a staff of wide experience and competent in editing.

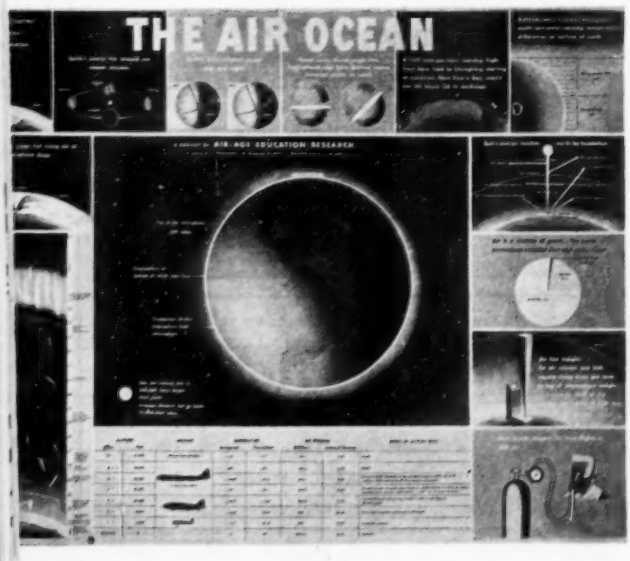
Booklet texts have been prepared for pupil use for each subject covered by the charts and are recommended for eighth grade and high school use. The contents of the texts corresponds to the subject matter on the charts. Each drawing on the charts has been reproduced in the texts for pupil study preceding and following classroom discussion. The content of both charts and booklets corresponds to the basic subject-matter which may be provided in the first year of aviation instruction. There is such a wealth of new material representing aeronautical progress, however, that they may well be used for review and supplementary reading at higher levels, and for vocational guidance.

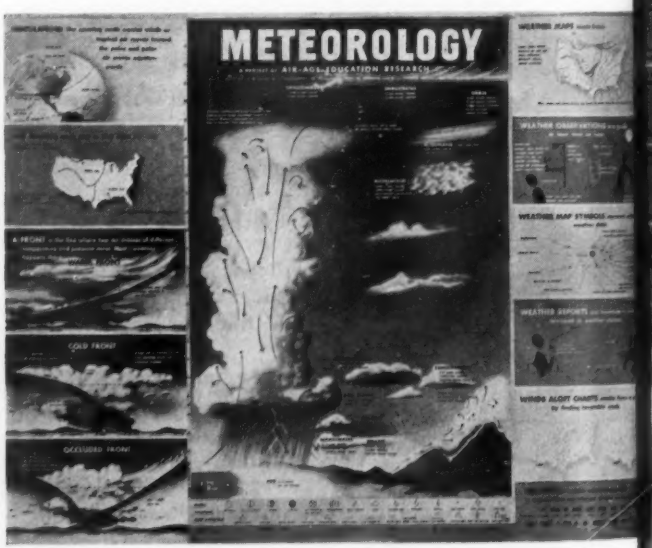
One factor of importance to schools is that both charts and booklets are available as a public service through Air-Age Education Research on a non-profit basis.

This Air-Age Chart Series includes first a scientific understanding of the earth's atmosphere, whose conditions still govern flight. Simply presented in *The Air Ocean,* is an analysis of the earth's relation to its surrounding blanket of air, 620 miles thick, and its weight and composition. It explains, for instance, how pressure and oxygen, indispensable to man, may be maintained artificially under abnormal conditions. In the future, these factors will not impede man from exploring outer space and the planets, perhaps, by use of rocket power.

The immediate application of many atmospheric principles explained in *The Air Ocean* leads to *Meteorology,* the study of weather. The safety and efficiency of modern flight depends in great part on the accurate measuring and forecasting of the layers, tides, and storms of the air ocean. Meteorologists, recognizing the electrical nature underlying many of these movements, are now using electronic devices in the investigation of weather, opening still another door to this immense field.

Aircraft and Aerodynamics, dealing with the theory of flight, provide an analytical background for today's huge airliners. Without becoming involved in technical jargon, *Aerodynamics* describes the forces acting on an airplane and how a pilot utilizes them to control flight. *Aircraft* presents such recent developments as jet and rocket propulsion. The evolution of balloons, dirigibles, gliders, and flying boats, among others, is the framework of modern flight and it is so discussed. Rotary-wing aircraft, for example, are just beginning to exhibit their remarkable potentialities. Helicopters





Charts for Aviation Programs

By N. L. Englehardt, Jr.
Director, Air-Age Education Research

for mail delivery and suburban taxi service, jet-propelled flying wings for intercontinental express flights, huge cargo transports, easy and comfortable private planes—these will soon be the necessities of daily life.

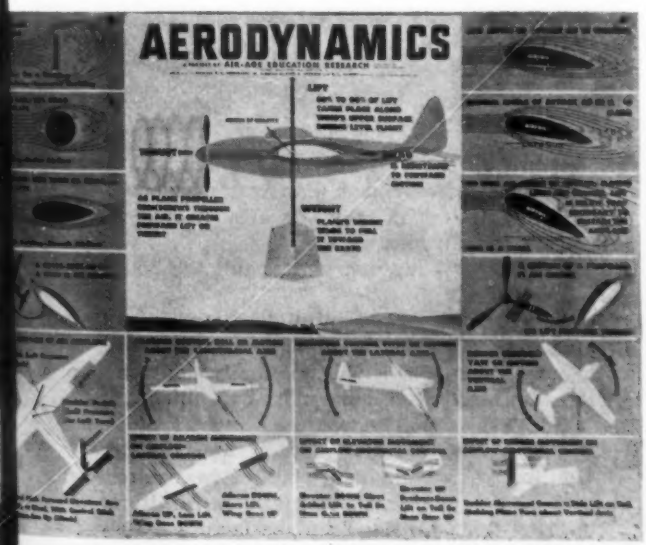
Aviation expansion is graphically revealed in the field of electronics. *Navigation* and *Radio Navigation* explain the development of maps and charts, the new methods of flight planning and control, and trends in navigation with the development of radar. To begin with, the fundamentals of flight direction, the use of compass and chart, landmark recognition, and wind-drift correction for an accurate course through the air are thoroughly mapped out in *Navigation*. With all-weather flying now a reality, *Radio Navigation* demonstrates, for example, how pilots maintain flight without visibility and with safety near the ground and in mid-air.

Radio today is hardly recognizable from radio of the days when flyers used it merely to communicate with the ground. *Radio Navigation* shows not only how the gyro compass and artificial horizon function (two important navigational instruments), but also the radio highways of the air and the tremendous progress in flight safety through use of electronics. It is now possible for huge airliners, carrying more than 100 passengers at 400 mph to take off literally without ceiling or visibility, fly thousands of miles "blind," and land safely still without ceiling or visibility. As ponted out in *Radio Navigation*, many complex instruments are required for such operations, but by understanding the principles upon which they work, the limitless use of the air can be comprehended.

Aviation, America's greatest industry during the war, will require not only thousands of technicians of all types but must also rely heavily on the capabilities of new designers, new inventors, new artists. Aerodynamics now belongs not to a few technical experts; its swift progress continually demands an ever-increasing share of the world's manpower. Even today, problems of administration as well as research, require far greater staffs than are employed.

Aviation has given man full use of the third dimension, space. Modern geography, for example, now examines rivers, mountains, and the horizon, the sky and its terrain. Flight has reduced time to a significant minimum and created new social and political realities. We think of travel distance in terms of flight hours instead of miles. Full awareness of these forces can only come from a sure grasp of the nature of flight—what causes it and how it functions. Youth in the Air Age must understand flight fundamentals.

A brief review can barely touch upon the potentialities and daily growth of modern aviation. The booklets and charts do form a clear exposition of the elementary technical aspects of aviation. The charts present a visual outline and definition of aviation's framework. Brief and easy to understand, they illuminate the immense canvas of modern flight.



Painting toys for Toy Loan Center

a Toy Repair corps

By Agnes Brady

Assistant Professor of Home Economics, Indiana State Teachers College

STUDENT, college, and community services are goals of the Home Economics Club of Indiana State Teachers College, Terre Haute. Taking an active interest in the educational and social welfare of each participant has been an aim since the club was organized and has benefitted both college and community.

Community service is the major goal each December. For several years the club has worked with the Toy Loan Foundation, a center sponsored by a grade teacher from the Laboratory School, and managed as a circulating library. It is located in a district of the city where underprivileged children live, and gives them an opportunity to visit the center, enjoy playing with the toys, and check them out for home use. Each toy is washed and disinfected upon its return, and each toy in time needs to be repaired or replaced.

The club girls have given both time and money annually to the maintenance of this unusual and worthwhile project. Out-of-school hours are spent in buying and applying paint, sandpaper, nails, and hammers for the repair work. The more badly the wagon or crane is damaged, the more vividly it portrays the need. New toys are purchased for the center from time to time and unusual toys of new design and mechanism are selected, but old toys remain the favorites of children who patronize the Foundation.

Community work for children does not end with brightening up old toys and replacing those worn out. The children's party given by the club is the final project to bring happiness to these underprivileged ones from the lower grades. Each club member selects a child to take to the party from a list of names obtained in advance, visits the home, and purchases a suitable gift for the child. Club committees work cooperatively on decoration, transportation, entertainment, food, and clean-up. Little faces brighten as games are played, the tree and its gay decorations admired, the food is served and the gifts from club members distributed. Some of the tots have been coming to the party for two or three years; some come clasping the hands of younger brothers or sisters.

Each club girl appreciates keenly the joy that love, understanding, and unselfish interest bring as she works to attain the established goals. Each year the girls also earn membership points that place them in line for the annual alumnae award by this project.

Help for Housing Worries

By Grace Harris

District Supervisor, Home Economics Education for Negroes, Richmond, Virginia

IN Prince George County, Virginia, home economics and agriculture teachers are working together to teach housing more effectively.

Methods used are well illustrated in the following case.

The Bland family consists of six members—father, mother, three girls aged 3, 11, and 12 years, and one boy aged 7. Before 1940, this family lived under unsatisfactory conditions of tenancy and their highest ambition was to own their own home. The home economics and agriculture teachers who were working with people in the county, discovered that this family were interested in home ownership and offered help. They discussed the size, type, cost, and location of a desirable home and took the family on trips to observe other farm homes in the community. Information gained in this way was supplemented by showing pictures of desirable farm homes for a family of six. A home on a 143 acre farm that would meet their needs, with a few repairs, was finally selected.

Assistance was given in securing a tenant-purchase loan through the Farm Security Administration, and a five-year improvement plan was developed:

First year—repair steps, walls, floors, windows, screens, and furniture.

Second year—improve yard, paint the house, plant flowers and shrubs.

Third year—repair out-buildings; provide storage space for food, clothing, equipment.

Fourth year—participate in family and community recreation and make home more convenient.

Fifth year—purchase necessary new furniture, make slip-covers, make home more comfortable.

In three years the Bland family have repaired walls, steps, floors, windows, screens, and furniture; have improved their yard and storage facilities. They have repaired the out-buildings and are making plans for painting their home.

Vocational teachers have visited the home frequently and have supplied much helpful material.

Representative Advisory Committees Prove Value

BY C. E. RAKESTRAW
Consultant, Employee-Employer Relations
U. S. Office of Education

Lathers and plasterers apprenticeship, committee, Long Beach, Calif., at work with the coordinator of apprentice training

MANY vocational educators familiar with the Smith-Hughes Act feel that it was the intent of Congress that all vocational education programs should be organized and conducted with the advice and counsel of representative groups.

In the early developmental stages of the program many of the state plans made provisions for representative advisory committees and in a few states the enabling or acceptance acts contained such provisions. As the program moved forward, however, some leaders (especially in the field of trade and industrial education) lost sight of this feature and organized and conducted programs without any advice or counsel from truly representative advisory committees. In some cases they established programs without any counsel whatsoever from either labor or management.

A decade ago the vocational educators of the country, including the U. S. Office of Education, were severely criticized for their failure to take into consideration such advice. Organized labor especially was vehement in its criticism. The Commissioner of Education in 1933, in view of this criticism, created a Committee of Nine to advise with him concerning the situation. This committee was representative, three members being from labor, three from employers, and three from the field of vocational education. This group specifically recommended that the Commissioner require the states to establish representative committees and that all programs be planned, and developed with their counsel. Following this recommendation most of the states organized such committees, but since there was no definite regulation requiring it, these were not used to the fullest extent and advantage.

When the U. S. Office of Education in cooperation with the states, inaugurated the training program to prepare war production workers in 1940, definite regulations were promulgated and made a part of the requirement for states and local communities conducting training programs for war industries. These policies, contained in U. S. Office of Education Misc. 2801 (VE-ND), required committees of equal representation of labor and management with members from other interested agencies such as the Employment Service and the schools serving as consultants.

Chief criticism of labor previous to 1933 and up to 1940 had been that the members of existing committees did not actually represent the labor groups. On the basis of this criticism, the regulations or policies required that the schools select and appoint members of the advisory committees from lists of nominees submitted by the various organizations from which representation was desired. During the life of this training program, 1,800 such committees were organized and actually functioned in the establishment and conduct of war production training classes. Through this experience many vocational educators became thoroughly convinced of the value and necessity for representative advisory committees. Schools and classes are to a large extent organized and developed on the basis of the combined philosophies of employer groups, labor groups, and vocational educators.

At a recent visit to Long Beach, California, the writer, in company with L. S. Hawkins, chief, Trade and Industrial Education Service, U. S. Office of Education, inspected a vocational training program which could not have so successfully met community needs without the help of advisory committees, according to Dr. Frederick Horridge, the director.

Long Beach has a school district population of 310,-111. The vocational school is a branch of the Long Beach City College, Division of Business and Technology. It had an enrollment of 2,719 for the year 1945-46. Of this number, 971 were apprentices; 914 of them were veterans. In trade preparatory classes there was an enrollment of 112 boys and girls. Of these 103 were veterans. In extension classes, 1,497 workers were enrolled who returned to school during evening and leisure hours to receive instruction in related, technical, and in certain cases shop work.

Instruction and training is offered in 37 occupational fields at present. Other programs are being organized for 14 additional occupations which it is planned to have in operation within the next six months. A total of 51 advisory committees, composed of equal representation of employe and employer organizations, have been organized and are actively participating in an advisory capacity in the operation of the program. Representatives of the Employment Service, the state apprenticeship council, and schools serve ex-officio.

(Continued on page 28)

3-WAY VISUAL A

By John M. Amiss
Director of Industrial Education
Chrysler Corporation, Detroit, Michigan

THE value of visual aids no longer is questioned, but many still are faced with problems of producing or acquiring, and proper use of, these learning aids.

At the June, 1946, Apprenticeship Round Table in Cincinnati, attended by 42 directors of education and training in industry, a poll indicated unanimous interest, activity, and research in the field of production and use of visual aids. Public school teachers similarly are more concerned than ever with these same problems, for long experimentation has led educators in many fields to believe that visual and audio aids, when properly used, promote the effectiveness of their work.

In industrial education and training, it is constantly necessary to improve methods and techniques in teaching such subjects as shop mathematics, shop theory, machine shop operations, elementary economics, careers in industry, leadership and supervision, and related subjects. Teaching must be rapid but thorough. It is natural to turn to visual aids for help in achieving these objectives.

Chrysler Corporation has faced a number of practical questions concerning the use of visual aids: What is the best source of supply? Can they be purchased at reasonable cost? Are commercially prepared films satisfactory? What are the advantages and disadvantages of preparing visual aids ourselves? Are such aids effective or are they amateurish? Can schools develop the proper quality and quantity of visual aids? The conclusion was that Chrysler could produce the type of visual aid needed for training purposes, and a department was established to produce such learning aids.

Soon after the department was established, William E. Stirton, principal of Cass Technical High School, Detroit, inquired whether Chrysler could extend its high school cooperative program to include a few students of commercial art from the public schools. The request fitted in naturally with this newly established visual aid department, and arrangements were made to train five pairs of carefully selected commercial art students. These students alternated between the Cass

Detroit Scho
Students Wo

L AIDS PROGR

High School and the Chrysler plant on a two-week basis.

This experiment was watched with interest. Could these high school students produce commercial art work of high professional quality? The work involved design, color, lettering, and the production of such learning aids as silent slidefilms, charts, visual cast slides, book illustrations, catalogs, models, materials for opaque projector and other types of teaching devices. Under the skillful teaching of Sidney W. Seeley, supervisor of visual aids, the progress made by these young students was remarkable. They have met and surpassed expectations, and have successfully supplied both the quality and quantity of required visual aids.

Advantages of this visual aids training were mutually attested by Principal Stirton and the art teachers at Cass, the students, and the Chrysler visual aids department.

Most important criterion is the effect of the project upon the participating students. The practical aspect of the work appealed to them. Among their numerous contributions was a 90-frame colored slidefilm on machine shop safety. The original colored plates were considered so outstanding that they were exhibited by the Detroit Art Museum, at the American Vocational Association convention in Buffalo, and at the Michigan Vocational Association convention in Grand Rapids, Michigan. So successful was this first attempt at producing a colored slidefilm that students now are well under way on the production of a 150-frame colored slidefilm on machine shop operations.

When they started their training, few of the art students had contemplated college training in commercial art. At the close of their two-year cooperative training period most of them desired college training, and in special cases scholarships were arranged. Their success has interested and stimulated many other students and more applications have been received than can be accepted.

The joint project with Cass Technical High School has been a practical demonstration of the benefits that can be derived when the public schools and industry cooperate.

By MARGARET STEWART

Industrial Correspondent of The Economist, London

Young boys erect nursery school

A Charter for Young Workers

Britain's Plan Includes Vocational Guidance for All In-School Youth

BY 1955, the number of boys and girls under 18 years of age who will be available for employment in Britain will be about half what it is today. This serious decline in the number of young workers has been predicted by experts of Britain's Ministry of Labor, who have been working out the effect on the labor supply of the fall in the birth-rate between the two wars and a prospective raising of the school-leaving age.

In the future, far greater attention must be paid than formerly to (1) placing juveniles in industry, (2) vocational guidance, and (3) training, not only from the point of view of young people themselves, but from that of the employer and the country generally. The recently published report of the Committee on Juvenile Employment Service accordingly becomes one of the most important state documents of the present time.

The Committee was set up in January, 1945, by Ernest Bevin, then Minister of Labor. Anticipating the downward trend of juvenile recruitment, he realized that if the best possible use was to be made of the dwindling supply of young workers, the basis of recruitment would have to be radically revised. Sir Godfrey Ince presided over this committee, consisting of Whitehall experts on employment and education and both sides of industry, together with representatives of local authorities. Their terms of reference were: "to consider the measures necessary to establish a comprehensive juvenile employment service . . . and to make suggestions for a practical scheme." The committee's report now has been accepted in principle by George Isaacs, the present Minister of Labor, and arrangements are being made to put the recommendations into effect as soon as possible.

Vocational Information Provided

Broadly speaking, the aim of the scheme is to provide every boy and girl as they leave school, with an opportunity to choose the vocation for which they are most fitted. The committee recommends that the maximum information about careers and jobs should be made available while children are still at school, through pamphlets, talks, exhibitions, films, visits to factories, and in other ways, in order to prepare them for the change from school to work. Some time during the last year at school every boy and girl should have an interview with an official of the Juvenile Employment Service. Perfunctory interviewing is condemned and stress is laid on the need for conducting proceedings as informally and intimately as possible, so that the child will feel that a real interest is being taken in his future.

Three guiding principles are laid down for placing juveniles in employment. First, to fit them into the right jobs according to their qualifications, aptitudes, and interests; second, to prevent them from entering jobs "harmful to their health or character or leading to no suitable career"; and third, to ensure the distribution of juveniles in accordance with national needs. In other words, the employment authorities should try to fit square pegs into square holes, give each boy or girl the opportunity for a progressive career, and do away with unhealthy blind-alley jobs. The time is past when children work for long hours in bad conditions at 12 or 13 years, but there still are far too many occupations which are unhealthy or unsuitable for juveniles. The application of vocational guidance should reduce these dangers and the Factories Act provides a measure of protection for young workers. But these safeguards are not entirely adequate, and one of the key proposals of the committee is that Parliament should prohibit the employment of juveniles in such occupations.

Blind-alley work is more difficult to define and even more difficult to prevent. Before the war, "too old at twenty" used to be a common fate of young workers in the depressed industrial areas of South Wales and the northeast, where unemployment was high. Many boys found themselves launched into the world, their education incomplete at 14 years, to find their own living as best they could. In many cases, with fathers and brothers on the dole, they became the main breadwinners of the family, and naturally took the nearest job at hand. In their turn, they would be slung out

after a few years when it became cheaper to take on a younger lad.

This should not happen again if there is anything like full and stable employment in the country, but there are always some jobs for which employers would like young workers and which are, by their very nature, "blind alley" jobs—messengers, hotel and restaurant page boys, etc. In these cases it is essential to ensure that hours of work are limited, that working conditions are reasonably good, and that the youths are allowed to attend day-continuation schools and be trained for better and more skilled occupations later on. Whenever possible, the committee recommends, arrangements should be made to dovetail this type of work with occupations which are normally undertaken only by adults.

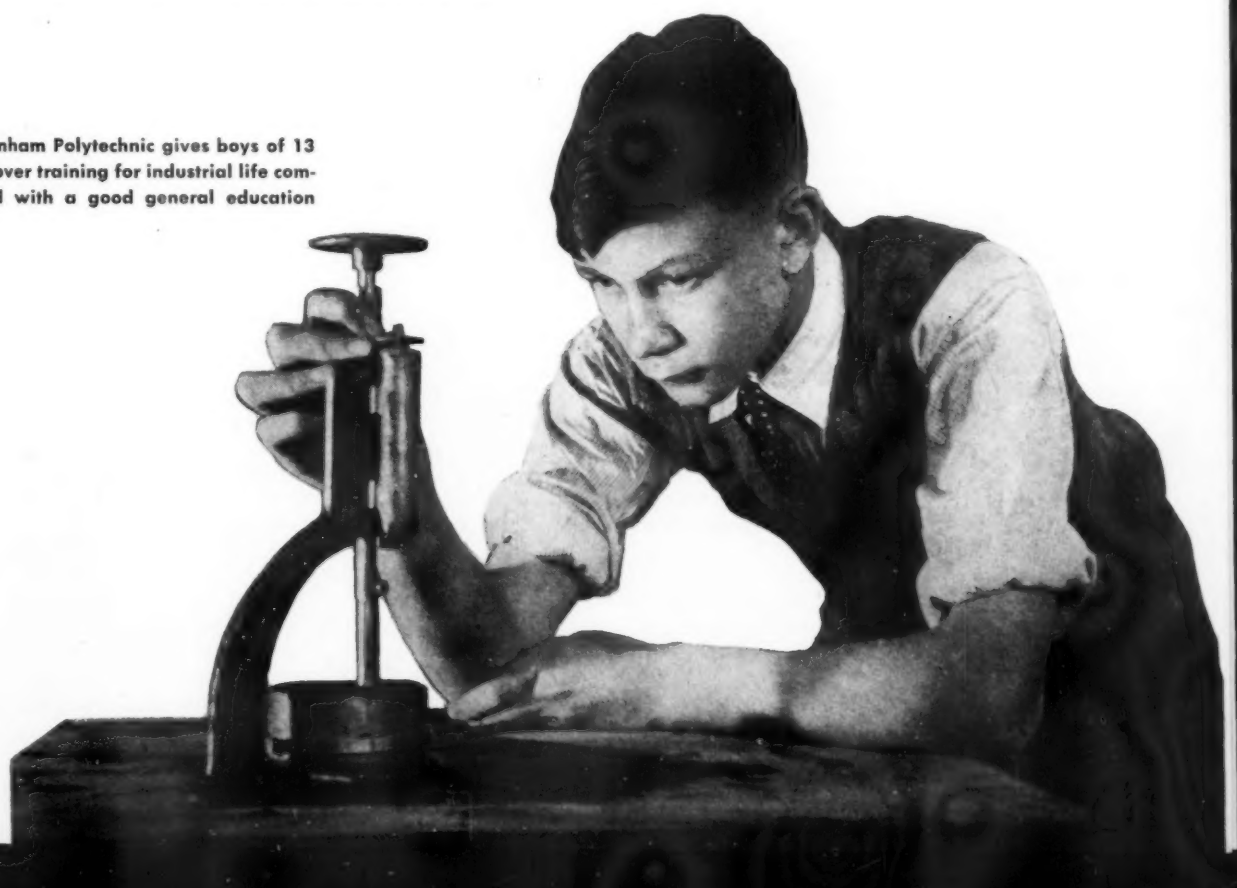
The Ince Report lays great emphasis on the need for supervision and training. It urges the continued supervision of adolescents by a "follow-up" interview and other means not only to check on their work progress but to ensure that they are in suitable employment. The committee points out that some youths may be living in districts where there are no opportunities for training for the type of work they want, and suggests that the Government should provide grants so they can take training away from their homes if necessary. This recommendation should be valuable in increasing the mobility of labor—an important factor in achieving the Government's aim of full employment.

New Machinery Recommended

It is obviously little use formulating schemes for vocational guidance and placement unless there is adequate machinery and staff to carry them out. Hitherto, Britain's system of juvenile employment, has suffered from duality. In some places the Ministry of Labor is the responsible authority; in others it is the Education Department. The Ince Committee recommended that a Joint Executive should be set up, representing both employment and educational interests, under the Minister of Labor, responsible to Parliament for the national Juvenile Employment Service. This executive would coordinate the activities of local authorities and employment exchanges, lay down central policy, and provide general guidance and advice. The successful carrying out of this proposal requires cooperation of parents, school teachers, children, young workers, employers, in a spirit of goodwill.

The third principle—distribution in accordance with national needs—raises an altogether different and more difficult problem. Theoretically, it would be possible to apply compulsory powers to direct juveniles into the jobs where they were most needed, but in practice that would not be desirable; the committee rejects the idea of compulsion as contrary to British wishes and traditions. This raises an acute problem for some of Britain's older industries, which have been steadily losing their young workers. Coal and cotton, two industries on which Britain's economic future depends, are outstanding examples. Wages and conditions must be improved and techniques modernized if they are to attract young workers.

Machines must do the work that was once done by boys and girls, for there can be no return to the days of "cheap" young labor. The Ince Report provides a new approach to the problem, and a starting point for the formulation of a young workers' charter which will safeguard the health and welfare of future generations in industry.



Tottenham Polytechnic gives boys of 13 and over training for industrial life combined with a good general education

Standards for Visual Aids

AVA Committee Offers Suggestions

EDITOR'S NOTE: **The American Vocational Association Committee on Commercial Supplementary Teaching Aids appointed to cooperate with the Consumer Education Study of the National Association of Secondary School Principals, has prepared (as a preliminary report) desirable lists of teaching aids, and standards. The steering committee comprised L. H. Dennis, executive secretary of the A.V.A.; Miss Helen Le Baron, state supervisor of home economics, Vermont; and Edward Berman, assistant superintendent of schools and director of vocational education, Bayonne, New Jersey, chairman. The section presented here deals only with recommendations for the improvement of projected aids, and was prepared by Gilbert Weaver, supervisor, industrial teacher training, University of the State of New York. While intended primarily as a guide to producers, it also is a sound measuring stick for those who select and purchase films for teaching purposes. G.H.F.**

EDUCATIONAL pictures may be divided into two general classifications. Informational films present facts of interest to the layman as well as the student and are utilized to supplement the instructor's own efforts of explanation and demonstration in his attempt to give an overview of places, things, people, and processes. Learning films have as their chief objective imparting industrial, scientific, or occupational information as well as skills of performance. If these films are to render maximum service, they must be planned with a full knowledge of how people learn and take nothing for granted. The approach, the sequence of facts presented, and the order of skills demonstrated, must be in accordance with the accepted laws of learning. Production of films for teaching purposes should be a joint effort of producers and educators. The cooperation of these two interested groups will insure mutually advantageous results in better films, bigger sales, and improved instruction.

Shortcomings of Training Films

◆ The average motion picture film for educational or training purposes usually covers too much territory. Human beings can absorb only a limited amount of knowledge in one learning period and therefore no attempt should be made to cover the whole of a complicated subject.

◆ The motion picture moves too rapidly for satisfactory comprehension of the learner. . . .

◆ The explanation of technical terms is usually too limited, if not omitted.

◆ There is not sufficient "pointing out" of parts of machines, operators, and processes to which the running comment is directed.

◆ There is not adequate review of pertinent points or frequent summarizations for thorough understanding.

◆ Things are taken for granted. It is assumed that the learner will understand what is being done, therefore details are omitted.

◆ Motivation many times is lacking. There may be justification for this omission in some cases but in general a situation should be created that will cause the learner to want to learn the particular thing to be presented.

◆ The explanations and demonstrations are not well coordinated. The tools, appliances, gages, controls, etc., should be explained as they are introduced and necessary for doing the work.

◆ There exists a lack of sufficient slow motion, close-ups, or "shots" at the proper angle for clarity.

What the Producer Can Do

In order to reduce resistance to a minimum and encourage further use of projected teaching aids, the following suggestions are made to producers:

◆ Enlist the services of practical educators (teachers who are expected to use films) to assist in the development of definite plans for shooting each picture.

◆ Break down the film into short units of instruction that they may be understood and absorbed by the learner within a period of ten or fifteen minutes.

◆ Be sure every new or technical term is clearly explained. This precaution will avoid much confusion.

◆ Indicate by finger, pointer, or animated arrows parts or processes to which the running comment is directed. This suggestion will definitely assist understanding.

◆ Refer to the laws of learning for direction when considering the length of the film, the sequence of content, and the approach or introduction to the subject.

◆ Do not fail to repeat important features; also review at intervals and summarize for added emphasis.

◆ Motivate the learning by creating a need for the instruction in the learner's mind; e.g. show the result of dull tools before the presentation of grinding or sharpening of tools.

◆ Take nothing for granted. Underestimate rather than overestimate the learner's intelligence. Explain and demonstrate details.

◆ Make generous use of close-ups and retard motion for the sake of complete comprehension.

◆ Do not befog the learning situation by irrelevant showmanship. Remember educational films should teach, not entertain.

◆ Avoid abrupt changes in the presentation of the subject matter. Make the transition clear and smooth by a few extra frames or footage.

◆ Provide with each film a brochure in which are indicated the most effective ways of using the film. This treatise might include suggestions concerning the various situations in which the film may be used, questions for interrogating the learners after the showing and also practical assignments that may be given to insure the proper application of the things learned.

◆ Issue a 3"x5" card on which is indicated the title of the film, time of showing, footage, sound or silent, black and white, color, reels or frames, how secured.

Many of the suggested improvements have been applied in isolated cases but there is need for a consistent pattern of procedures in the production of all learning films.

An evening class for adults in the Richmond Retail Institute features a demonstration of the correct method for handling a complicated business transaction by use of the telephone.

Retail Institutes Are "THE BUSINESS"

VIRGINIA TRAINEES PRODUCE VALUABLE MANUALS AS PROJECTS LEADING TO RECOGNIZED DIPLOMAS

By Louise Bernard *State Supervisor of Distributive Education, Virginia*

IF merchant, school administration, and community are to understand the importance of good practices of distribution, know what they are, how to carry them out, and how to improve them continually, it is necessary that distributive education be provided on both in-school and adult levels. Since 1937, the Virginia distributive education program has worked toward this objective.

Known as the Retail Institute, the Virginia adult program is set up under local school administration in 22 communities. It is under the supervision of the retail coordinator in each city and culminates in diplomas on two levels. The first level, is designed for persons in selling or non-selling jobs in retail stores. They take prescribed courses in merchandise arithmetic, selling, display, advertising, store and stock keeping, store speech, and electives in merchandise information. When they have satisfactorily completed these courses, and a special project on which they must work for a minimum of 10 hours, they are awarded a diploma from the Retail Institute.

Courses in the Advanced or second level are: How to train an employee, department management, merchandising, executive leadership, economics of distribution, display II, advertising II, and electives. Applicants for the Advanced diploma must complete a research project in their fields.

Classes included in the long-term training program of the Retail Institute compare with junior and senior

Certificate of Credit

Distributive Education

This is to Certify that Mrs. Cornelia Vest

of T & S Laundry Company

in the Richmond

has satisfactorily completed courses

attached seals and approved by The State Board of Education.

Retail Institute indicated by the

J. H. Binford

Superintendent of Schools

Rosemary Mc Millen

Local Supervisor Distributive Education

Deborah S. Lancaster

State Supervisor Distributive Education

Louise Bernard

State Supervisor Distributive Education

1 2 3 4 5 6 7 8

(See reverse side for description of courses taken.)

Certificates of Credit are awarded to all who complete Retail Institute courses and special project which is part of the work.

Retail Institutes which train veterans include display courses planned for ambulatory patients at McGuire Hospital in Richmond. Here teacher and students set up one of shadow box displays.

college courses. All are of a professional nature and are taught either by the trained retail coordinator or by a person from the field of retailing who has been instructed in adult teaching. Emphasis is placed on the practical material necessary to successful retailers and retailing is approached by all instructors from the professional point of view.

In November, 1945, the first class of seven students was awarded the first diplomas in distributive education by Louise Bernard, state supervisor of distributive education. For six years these employees of Richmond stores had taken prescribed courses outlined in the long-term training plan. Six were awarded the Basic diploma and the seventh, the personnel director of the W. T. Grant Company store, earned the Advanced.

Store managers and Retail Institute staff were well pleased with the first diploma projects. Adapting materials sent from her store's central personnel office, the Advanced diploma winner had prepared a manual, *A Plan for Initial Training at the W. T. Grant Company*, in lesson plan form. That plan now is being used in the store with excellent results. Four employees of Baldwin's prepared an excellent manual, working together, on the subject, *Store and Stockkeeping at Baldwin's*, which included information on receiving, marking, and stocking procedures used in the store, with suggestions for new employees for learning those jobs.

The third project came from the Hutzler employees who submitted a *Survey of Consumer Demands*. By keeping careful and detailed records of customer requests, these two graduates analyzed trends in consumer buying for the immediate postwar period.

Special programs have been worked out during past months for veterans returning to the field of retailing to enable them to complete required work in one to one- and one-half years.

THE ADULTS SAID THEY GOT RESULTS

SO ST. LOUIS IS OFFERING PART-TIME COOPERATIVE DISTRIBUTIVE TRAINING IN HIGH SCHOOLS THIS YEAR

By Fran McCreery *State Supervisor, Distributive Education, Missouri*

A TREND back to the days of real service by salespeople was evident last year in the St. Louis, Missouri, distributive education evening program. Merchants were so highly pleased with results that they have prevailed upon the high schools to include the part-time cooperative retail training program as a regular part of the curriclum this year.

The evening classes were sponsored by the Associated Retailers of the city cooperating with the Board of Education, and were supervised by Arnold Zopf. Approximately 25 per cent of the trainees were veterans.

Courses offered, all of which were well attended, were: human relations training, interior decoration sales techniques, arithmetic review, practical English for salespeople, credits and collections, psychology of human relations, letter writing, retail selling simplified, advanced retail selling, effective speech, starting a small business, real estate law, food handling, display principles and practices, retail shoe selling, color-line-design, how to teach employees, how to supervise employees. In all courses service was stressed.

Most popular was the course, "Psychology of Human Relations," designed to "help you eliminate fear and self-consciousness by discovering and developing the highest possibilities of your personality. The study of human behavior is a practical approach to the solution of daily problems." This 8-week course was completed by more than 80 trainees.

"Interior Decoration" was divided into two classes of 40 trainees each to accommodate the enrollment. Eight two-hour sessions were conducted on "Study of Historical Background" which related to periods of decoration and architecture—American Colonial to the development of the modern. Its interpretation was applied to living and selling today and use was made of sound pictures, slides, and the color film, "Eighteenth Century Life in Williamsburg, Virginia."

A bulletin describing the courses offered last year may be obtained upon request to Mr. Arnold Zopf, supervisor of distributive education, St. Louis Board of Education, 911 Locust St.

Raymond W. Gregory

Vocational Education in the Postwar World

By RAYMOND W. GREGORY
Assistant U. S. Commissioner for Vocational Education

THE first phase of the Federal-State cooperative program of vocational education terminated with the beginning of the defense production training program in 1940. The second began with the surrender of Japan. The war years from 1941 to 1945 represent a great transition era. This period reflected both unifying and crystallizing forces.

Two clear-cut concepts were re-emphasized by the war. If education was to serve the fighter it had to do two things: make him occupationally competent in his role as a warrior and give him an understanding of the values that justified his sacrifice. The same responsibilities rest upon education in peace as in war. The vocational training program was challenged to provide opportunity for youth and adult to become and remain occupationally competent; and to relate his vocational training experiences to the totality of goals.

Although these responsibilities are in broad outline, they suggest that standards cannot be compromised, and that leaders in vocational education must appreciate and understand the relationship of vocational education to, and their partial responsibility for, the development of these attributes so necessary for successful and satisfactory living by the individual.

As we enter upon our duties in this second phase of vocational education, we may feel that we face the most difficult period in the history of the program. But a small group of pioneering men and women faced the trying responsibilities of inaugurating this program during a period of reconstruction following another war. Although they had vision, enthusiasm, courage, and deep-seated convictions, the physical facilities, trained personnel, and the moral understanding and support which they had at their command were infinitesimally small. The assets we have today make those of 29 years ago pale into insignificance. We have thousands of well-equipped shops and buildings; a corps of professionally qualified directors, supervisors, teachers; confidence of the public; support of agriculture, industry, business, and the home.

It is possible for us to fail to heed the silent changes taking place in our social and economic order and thus find ourselves handicapped by patterns of practice and procedure which are outmoded. The need for constant alertness is revealed by the gradual but ceaseless transformation created in our social and economic order by the technological changes during the past 25 years. No nation lives wholly apart from the others, no state or community apart from the rest. Problems of a community overlap into adjoining areas. The leadership in vocational education on local, state, and Federal levels must realize that the mutuality of their responsibilities is becoming increasingly intensified by this condition. The logical step is pooling of our efforts to enable us not only to save time and meet our ever-growing responsibilities but to discharge our duties more effectively. Research in vocational education all too frequently is not part of a well-planned and coordinated program. A nation-wide coordination would bring results of benefit to the entire program. The same principle applies to development of instructional and supervisory material, to techniques and procedures in promotion, organization, administration, use of advisory committees, coordination of vocational services, etc.

A more efficient coordination of the activities of the local community, the state, and U. S. Office of Education will contribute much to a solution of another problem which is becoming more critical each year. Opportunities arise for service in the local community which cannot be met effectively because they involve factors outside the jurisdiction of the local school administrator. Modern transportation has made labor mobile. Industry establishes branch plants with headquarters located elsewhere, sometimes out of the state. Inauguration of a training program in such situations involves difficulties that cannot be handled by either local or state vocational education representatives.

Coordination among the services is necessary for the part-time farmers, part-time industrial workers; for the small industrial enterprise in which one person is manager and foreman, has charge of purchasing, sales, and distribution. Home owners in villages and on the farm are modernizing houses and both husband and wife must handle electrical equipment. Without a thorough and complete coordination of vocational services on local, state, and Federal levels, many of the needs of the people will not be met. In our plans for vocational education today and in the tomorrows, we should remember that the men and women of America who live by work have an equal right to complete vocational education service.

Finally, expansion and improvement may not prove difficult if it involves merely accretion. The real challenge comes when we make improvements, reorganize and redirect our efforts. We readjusted to meet the emergency training needs of a war geared into and paced by kaleidoscopic technological change. We will meet the more exacting demands of peace in an age being ushered in on the power of an exploding atom.

Federal Service and Vocational Group See Need for Clarification

APPRENTICESHIP AGREEMENTS

By C. L. Greiber *State Director of Vocational and Adult Education, Wisconsin*

SUGGESTIONS for clarifying understanding of the relationship between representatives of vocational education and the Federal Apprenticeship Training Service, and for improving and strengthening apprenticeship programs, were made at a meeting of representatives of the two groups held in Laconia, New Hampshire, June 21-22.

L. S. Hawkins, chief of trade and industrial education, U. S. Office of Education, presented the part which vocational trade and industrial education should play in apprenticeship at the opening session. At the close of the general discussion, the following suggestions were made.

A review should be made of the "Hawkins-Patterson Agreement" to determine if it completely satisfies present conditions. It was felt that this agreement could be elaborated upon and that publicity should be given it so that states will resume an effort to carry out its provisions on state and local levels.

Meetings on the state level were suggested to work out state agreements between the Apprenticeship Training Service and vocational educators. Such agreements, already developed in 12 states, have resulted in better working relationships.

Vocational education authorities should assist in the development of state apprenticeship councils.

It was suggested that the AVA utilize an existing committee or appoint a new committee to develop a brief bulletin elaborating on the Hawkins-Patterson Agreement, defining respective functions of apprenticeship and on-the-job training, and vocational education and industrial arts. Such a bulletin could be endorsed by the AVA Executive Committee, Office of Education, and Apprenticeship Training Service. It was also suggested that an issue of the American Vocational Journal be devoted to a complete discussion of apprenticeship and vocational education's role.

The term "joint committee" has been interpreted both as joint representation of labor and management, and as a committee composed of labor and management representatives which advises on apprenticeship problems on the one hand and advises school authorities on related instruction, etc., for apprentices also. In addition there have been area committees and labor standards committees. Complete clarification of the various types of committees and their relation to school authorities is needed.

Evaluation of school work toward apprenticeship, which might involve development of patterns, etc., and be suggestive of standards to be used, was suggested.

It was felt that the Apprenticeship Training Service should instruct new men, particularly, on the functions of vocational education. It also was indicated that in some states young people are being apprenticed in areas of work which do not seem feasible.

William F. Patterson, Director of Apprenticeship Training Service, Department of Labor, and six members of his staff attended the meeting. Representatives of vocational education were Charles W. Sylvester, director of vocational education, Baltimore, Md.; John McCarthy, state director of vocational education, New Jersey; John E. Nelson, state director of vocational education, Vermont; M. Norcross Stratton, state director of vocational education, Massachusetts; C. L. Greiber, state director of vocational education, Wisconsin, and L. S. Hawkins, U. S. Office of Education.

YOUTH MOBILIZED FOR FAMINE RELIEF

A FIVE-POINT program to further famine relief was adopted by representatives of 17 national youth organizations which met with President Truman July 15. J. Glyndon Stuff, Dixon, Ill., national FFA president, was chairman, and Marion F. Baumgardner, Wellington, Tex., third vice president, and Virgil Getto, Fallon, Nev., secretary, were other FFA representatives present.

The first Youth United for Famine Relief Conference was called to mobilize 32 million American youth to prevent starvation in war-torn areas for another three years. President Truman asked these youth leaders to help him publicize the plight of European countries in need of American food and to give him reports on their accomplishments. The program they adopted follows:

Give 100 per cent support to the President's famine emergency program; advocate showing the film, "Seeds of Destiny" on a national basis; set up local youth famine councils in every community to work with similar adult organizations; enlist the aid of all members of youth organizations in carrying the food conservation program into the homes of the nation; and support a "National Famine Week" publicity program.

Organizations represented were Boys' Club of America, Boy Scouts of America, Campfire Girls, Youth Department of the National Catholic Welfare Conference, 4-H Clubs, Girl Scouts, Future Homemakers of America, American Red Cross, National Federation of Settlements, National Jewish Welfare Board, Salvation Army, United Christian Youth, Y.M.C.A., Y.W.C.A., New Homemakers of America, New Farmers of America, and the FFA.

Vocational Education Bill *Passed*

Sen. George, M. D. Mobley, Mrs. Mobley, C. L. Greiber, Cong. Barden, Sen. Hill watch President Truman sign George-Barden Act.

AFTER many months of consideration and hearings, Congress passed our vocational bill, S. 619. This bill was the George-Barden bill. The bill passed both Houses of Congress by practically unanimous votes with leaders in both major parties speaking in behalf of the bill. This bill amends the George Deen Act of 1936 and takes the place of the George-Deen Act.

Hearings before the House Committee on Education on our vocational bill started on April 10. The hearings extended two days. Further hearings were postponed until June 12 and 13 when the House Committee gave another two days' consideration to open hearings.

When the hearings first began, casual observers not knowing the background of the situation, might have been somewhat concerned for fear the bill would not have too much support from the members of the House Committee. As the hearings progressed, the situation became clearer to those who attended the hearings. The presentations and testimonies which were submitted during the entire hearings made it clearly evident that there was wide-spread public support for the program of vocational education as operated under the provisions of the Smith-Hughes and George-Deen Acts. Some members of the Committee who seemed unwilling to make provisions for any extensive changes in the program have given evidence of their willingness to extend the present program.

A brief report or summary on hearings held on April 10-11 is recorded in the June issue of the *American Vocational Journal*. On June 12 and 13 additional testimonies were presented by M. D. Mobley, state director of vocational education in Georgia; Mr. S. C. Anderson, teacher of vocational agriculture, Rocky Point, North Carolina; Russell Smith, National Farmers Union; Fred Bailey, National Grange; Earl D. Mallery, director, American Municipal Association; James F. MulCahy, National Confectioners' Association; Max F. Baer, National Vocational Guidance Association. Mrs. Dora Lewis of the American Home Economics Association, and the American Farm Bureau Federation also filed statements. Our members will be considerably interested in the point of view expressed by the American Farm Bureau Federation and the effects of their testimonies on our vocational bill.

The passage of this Act brings to our local and state leaders of vocational education new opportunities and new responsibilities for the further development of vocational education. Appropriations have already been made by Congress under the George-Deen Act which is now amended under the terms of the George-Barden Act. The additional appropriations authorized by the new Act will necessitate supplemental appropriations when Congress reconvenes in January. It is possible that we may be able to give you further, more detailed information on this matter in the October issue.

Your AVA Executive Secretary desires to express the appreciation of the Executive Committee to the AVA membership and leadership in the various states for the wonderful demonstration of cooperative assistance rendered during this complicated and difficult legislative campaign. The cordial and effective unity of the AVA has again been expressed in a very energetic and wholesome manner.

Respectfully submitted,

L. H. Dennis

Executive Secretary,
American Vocational Association, Inc.

EDITOR'S NOTE: Provisions of the George-Barden Act, passed and signed by President Truman on August 1, follow.

Appropriations for the fiscal year beginning July 1, 1946, and annually thereafter—$10,000,000 for vocational education in agriculture including supervision by the vocational agriculture teachers of the activities related to vocational education in agriculture of the FFA and NFA; $8,000,000 for vocational education in home economics; $8,000,000 for vocational education in trades and industries; $2,500,000 for distributive occupations; $350,000 for the U. S. Office of Education.

Important new provisions are: Funds may be used in "the maintenance of adequate programs of administration, supervision, and teacher-training; for salaries and necessary travel expenses of teachers, teacher-trainers, vocational counselors, supervisors and directors of vocational education and vocational guidance; for securing necessary educational information and data as a basis for the proper development of programs of vocational education and vocational guidance; for training and work-experience training programs for out-of-school youth; for training programs for apprentices; for purchase or rent of equipment and supplies for vocational instruction;" . . . "pre-employment schools and classes organized for persons over 18 years of age or who have left the full-time school may be operated for less than nine months per year and less than 30 hours per week and without the requirement that a minimum of 50 per centum of the time must be given to shop work on a useful or productive basis;" . . . "After June 30, 1951, not more than 10 per cent of the amount appropriated for each of the specific purposes shall be used for the purchase or acquisition of equipment;" . . . funds must be matched 100 per cent by the states and local communities or both, and money may be used on a prorated basis determined by the state board, for the salary and travel expense of a state director, selected by the state board in accordance with the state plan requirements, "on the basis of his technical and professional qualifications including experience in vocational education."—*G.H.F.*

AVA CONVENTION TO ST. LOUIS

THE AVA Executive Committee again experienced some difficulty this year in connection with securing satisfactory hotel and other convention arrangements for the next AVA convention. While hotel situations in some cities are beginning to show signs of easing up slightly, yet most of the cities usually considered by he Executive Committee eliminated themselves this year because of the hotel situation. Excessively high hotel rates in some cities were determining factors in making the final decision for the current year.

After a careful review of convention possibilities in the list of cities selected by the Executive Committee, the four AVA officers finally decided upon St. Louis, Mo., for the next AVA convention. The date was definitely set for the week of December 2, the AVA convention extending December 4-7.

Interest already is running high in the next convention. Requests are coming in from industrial and commercial firms who wish to secure exhibit space. The selection of a convention city never secures the approval of all individuals and groups. The selection of St. Louis has brought to the Executive Committee many expressions of approval because the convention is again to be taken into the central part of the country. We look for an unusually fine attendance this fall because of the increased interest in vocational education, reconversion training programs, and because of many local and state plans for an extensive development of vocational education.

In writing to St. Louis for hotel accommodations, please consult the list of hotels which appears below. Send in application as directed by the St. Louis AVA Convention Housing Bureau.

Submitted for the Executive Committee.

L. H. DENNIS

Executive Secretary

HOTEL RESERVATIONS

In applying for reservations, indicate first, second and third choices in hotels. State hour and day of arrival, and of departure. Indicate names and addresses of all persons who will occupy the room reserved. Only a limited number of single rooms are available. All applications for reservations should be addressed to "Housing Bureau, American Vocational Association, 910 Syndicate Trust Building, St. Louis 1, Mo."

Hotels and rates follow:

Hotel	For one Person	For two persons Double bed	For two persons Twin beds	2-Room Suites Parlor and Bedroom
American	$2.00-$3.00	$3.50-$4.00	$5.00	
Chase	3.50 & up	5.00 & up	6.00 & up	$10.00 & up
Claridge	3.00-4.00	4.00-6.50	5.00-6.50	10.00 & up
Coronado	3.00 & up	5.00 & up	6.00 & up	8.00-13.00
DeSoto	2.65-7.00	4.00-7.00	5.30-10.00	10.00
Jefferson	3.50-5.00	4.50-6.00	6.00-8.00	12.00-20.00
Lennox	3.00-5.50	5.50-6.00	5.50-6.50	10.00-11.50
Lindell Plaza	2.50-4.00	3.00-5.00	3.00-5.00	
Majetsic	2.00-2.25	2.75-3.25	4.00	
Mark Twain	2.75-3.50	4.00-5.00	4.50-5.50	
Mayfair	3.00-6.50	4.00-8.00	5.50-8.00	10.50 & up
Melbourne	3.20-4.20	5.30-6.80	5.30-7.30	
Park Plaza	4.00-8.00		5.50-10.00	10.00-15.00
Roosevelt	3.00	3.50	4.50	
Statler	3.50-5.00	5.00-7.00	6.50-9.00	

A ten-year Federal-aid-to-education program is proposed in a measure introduced by Senator James E. Murray (D) Mont., on July 31, for study during the congressional recess. A revised bill may be introduced in January. As presented, the bill would: authorize a sum increasing from $500,000,000 the first year to $1,000,000,000 the tenth, to equalize educational opportunities among the states; provide $70,000,000 increasing to $350,000,000 the tenth, for scholarships in higher education to worthy students; allow $200,000,000 increasing to $400,000,000 the third year for planning construction of plants and buildings; provide $25,000,000 increasing to $125,000,000 in the tenth year for camping programs for children and youth in public parks and forests. It would set a minimum salary of $1,500 for public school teachers to be raised to $2,000 after the eighth year; proposes free text books, and a compulsory school year of 180 days. The U. S. Commissioner of Education would administer the program with a national advisory committee appointed by the President.

S. 2085. To authorize the Federal Works Administration to provide needed educational facilities other than housing to educational institutions furnishing courses of training or education to persons under Title II, Servicemen's Readjustment Act of 1944 passed.

H.R. 3370. The School Lunch Act was passed and the first appropriation approved for $75,000,000 for the fiscal year begining July 1, 1946.

H.R. 4512. The Mental Health Bill was passed by both houses and signed by the President July 3.

Senate Resolution 300. Introduced by Senator Wayne Morse (Ore.), calling for a full and complete study and investigation of Federal grants to state and local governments, received favorable action by the Senate Committee on Education and Labor and at the time of this report, had gone to the Committee to Audit and Control the Contingent Expenses of the Senate.

President's Reorganization Plan No. 2. The Children's Bureau was transferred to the Federal Security Agency under provisions of this plan.

FFA and NFA will have a budget of more than $56,000 for awards and projects this year, following action taken by the FFA Foundation Board of Trustees at their annual meeting. New awards are in farm mechanics and farm and home electrification.

Labor Management and Education Speak

By H. H. LONDON
Associate Professor, Industrial Education, University of Missouri
and IVAN HOSTETLER
Chairman, Division of Fine and Applied Arts, Georgia Teachers College

BECAUSE their backgrounds and interests differ in many respects, labor, management, and educators have held different points of view concerning industrial education. These points of view may shift from time to time with the evolving philosophy of the individuals comprising the groups, but their value to industrial education does not diminish.

On the assumption that a composite of the viewpoints of these three groups would give some indication of the type of industrial education program which the public schools should offer in the years ahead, a nation-wide study of opinions of leaders of labor, management, and education concerning current issues in industrial education recently was completed at the University of Missouri. Definite opinions concerning fifty issues were given by approximately 900 leaders from 48 states and the District of Columbia. Space does not permit a listing of the issues involved in the study and a statistical summary of results. The data indicate, however, that leaders of labor, management, and education are in rather close agreement on many issues but far apart on others. Of equal interest is the fact that the different groups of educators are as far apart in their opinions, if not further, than the three larger groups.

The chief findings and conclusions of the study may be summarized as follows:

1. The need for industrial education in the postwar period will be greater than before the war. To this, all groups agree.

2. A majority of labor leaders would make drastic changes in the postwar program of industrial education while the other groups are inclined toward minor changes.

3. The schools should provide basic industrial education as a foundation upon which specialists may be developed quickly in case of another emergency.

4. More industrial education should be available, even at the expense of reducing offerings in the traditional subjects. Here educators differ considerably.

5. The training of skilled workers should receive major emphasis, yet semi-skilled workers should not be neglected.

6. Evening schools should be open to all who are interested without regard to daily employment. With this idea only 6 per cent of the labor leaders disagree, while 38 per cent of the state supervisors disagree.

7. A large percentage of all groups would confine preemployment training to job families rather than to specific jobs. Another large percentage would provide both types of preemployment training. A majority of management would give only broad and basic preemployment training, while only 28 per cent of the supervisors would agree.

8. Effective vocational guidance is believed by all to be essential in industrial education.

9. The general shop for small schools is favored by a large margin over unit courses in woodworking and drawing.

10. Schools should provide courses in home mechanics for girls and women.

11. All groups favor cooperative education, although labor and management are not as much in favor of this as are educators.

12. Secondary and evening schools should provide courses in home planning and design for youth and adults.

13. School shops should be kept open after school and on Saturdays for training in farm and home maintenance. This will require careful supervision and, of course, additional expense.

14. Junior colleges should provide programs of industrial education to prepare high school graduates for employment in industrial occupations. Ninety per cent of labor leaders agree with this, while state supervisors are skeptical.

15. A large percentage of all groups except labor, are opposed to a Federally aided program of industrial education for out-of-school youth below employable age, in which the trainee will be paid while learning a trade. Others are undecided. Many stressed the point that pay should be received for production only, not for training.

16. A majority of all groups agree that broad vocational training is needed as a foundation for employment in a variety of technical jobs.

17. More public technical high schools and technical institutes should be established. Of the various groups, college deans and presidents are less in favor of this, as would be expected.

18. There are many jobs in industry that require no specific training, and much of the training that is needed for these jobs can doubtless best be given by industry. Yet there are some specific jobs for which training can and should be provided through the school. The groups vary widely on this issue.

19. Specific training by the schools, if it is to be done, should begin after age 16, or just prior to employment. Both labor and management would begin specific training earlier than would educators.

20. A majority of all groups, except management would begin regularly scheduled industrial arts courses in grades seven to nine. A large percentage of

(Continued on page 32)

"Bad Lands" Into G

Vision and resourcefulness in the rebuilding of various kinds of abandoned and unproductive lands may pay dividends. The return of such "bad lands" to profitable use is equally important to producers and to us at Swift & Company. Because "what helps agriculture helps all of us." Here is a story of such vision. Here is an example of one man's initiative.

Like a farm torn up by a giant's plow, 600 acres of Illinois strip mine land stood bare. It was apparently worthless. That was in 1938. Today those once-bare ridges are knee-deep in grass and clover. Each rugged acre makes more than encugh grass for one steer. And it's getting better each year.

The year after the land was mined for coal, a few volunteer sweet clover plants took root. They flourished in the lime-rich soil. Byron Somers of Canton, Illinois, who farmed adjacent land, noticed them. He bought the "bad land" for $5 an acre. With a hand seeder, he walked the ridges and sowed sweet clover. The next year he had a good stand. This added some nitrogen and humus to soil already rich in phosphorus and potash. Further seeding of a grass-legume mixture is done each year by airplane. Brome grass has got a start, and now his pastures will be even more productive. In addition to grass, plenty of drinking water for the cattle is held in the little valleys.

Since being returned to usefulness, this land has averaged a net profit of $7 an acre each year. Similar Illinois land has recently sold for $25 an acre.

This is only one example. *Every state has unproductive lands.* Many other men have returned them to use—and profited. Huge areas still offer a challenge and an opportunity to American producers everywhere. Your opportunity, too, may be indicated by such a little thing as sweet clover growing on abandoned land.

Soda Bill Sez:

. . . He who aims high, shoots ahead.

Martha Logan Recipe for

INDIVIDUAL SWISS STEAKS

3 to 4 pounds round steak (cut 2 inches thick)	½ cup lard
	2 onions
	2 cups cooked tomatoes
Salt, Pepper	1 cup flour

Cut steak in serving size portions. Season meat and place on well floured cutting board. Cover with flour and pound with meat hammer or edge of heavy saucer. Continue to turn, flour and pound meat until all flour is taken up. Brown sliced onions in lard in heavy skillet. Remove onion and brown steaks on both sides. Place onions on top of meat. Add tomatoes. Cover and bake slowly in a moderate oven (350°F.) 2½ to 3 hours. Diced vegetables may be cooked in with the meat during the last half hour. Serves 6 to 8.

You BET There's Competition!

Recently I spoke to a meeting of livestock producers. When I had finished talking, the chairman asked if any persons in the audience wanted to ask questions. Immediately one livestock man stood up. "Is there any competition in the buying of our livestock?" he asked. Naturally, my answer was, "Yes." I went on from there to an explanation . . .

One of the best evidences of competition is found in United States Government figures. They show that there are more than 3,500 meat packers in the United States. Also there are 22,500 other commercial slaughterers of livestock. Surely this means much competition. Of course, Swift & Company does not come in competition with every one of these 26,000 slaughterers at every point at which it buys livestock. However, there is no place in the United States but what Swift & Company does come in competition in the buying of livestock with one or more of the 26,000 slaughterers.

26,000 slaughterers compete for livestock

He buys for plants in many parts of the country

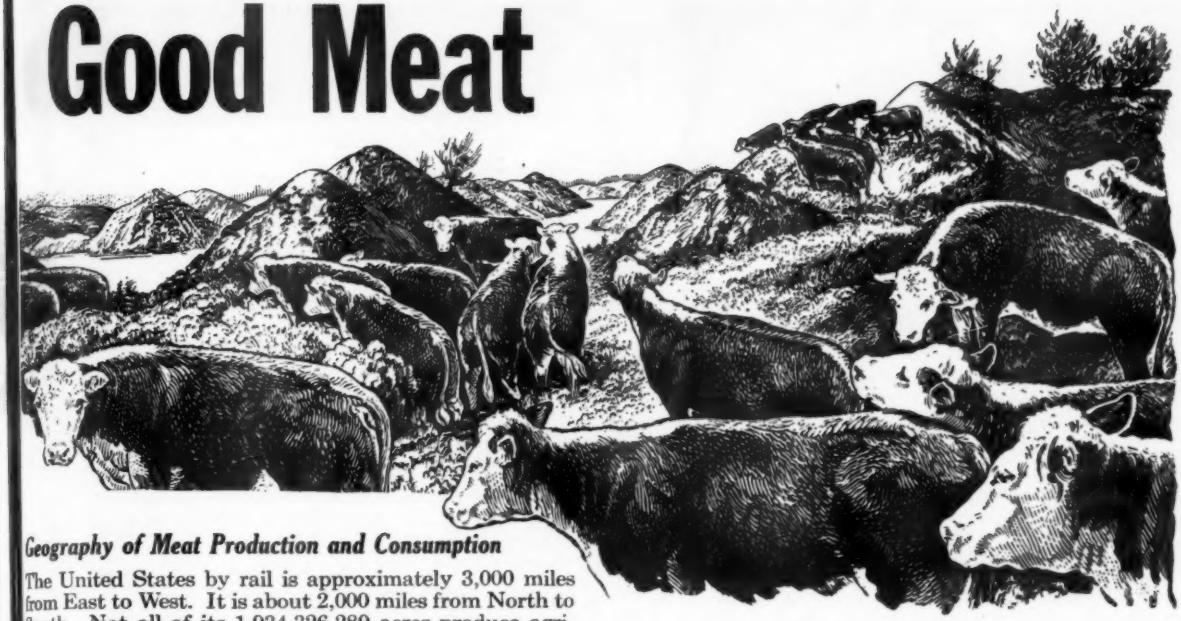
Here's another fact about competition. At practically all markets in the country there are order buyers. During a year they buy for up to hundreds of meat packers. No individual buys for several hundred on any one day. But when the meat packers whom they represent need livestock, these order buyers are out competing with Swift & Company and every other buyer in the market.

The foregoing are just two examples of the many to be found indicating the ever present competition in our business.

F. M. Simpson.

Agricultural Research Department

Good Meat



Geography of Meat Production and Consumption

The United States by rail is approximately 3,000 miles from East to West. It is about 2,000 miles from North to South. Not all of its 1.934.326.280 acres produce agricultural products. Neither do all of its square miles have the same number of people. The western part, including the Corn Belt, is the great food producing area. The East is the section in which most of the people live.

Approximately two-thirds of the livestock is produced west of the Mississippi River. Approximately two-thirds of the people live east of it. More specifically, about one-third of the people live in the area from Pennsylvania northeast into New England. Thus there is a great distance between the producers of livestock and the consumers of meats. This makes it necessary to have national concerns like Swift & Company in the slaughtering of livestock, processing, handling and selling of meats. The products handled by meat packers average to move more than one thousand miles from producer to consumer.

OUR CITY COUSIN

City Cousin ran away
When he heard
the farmer say,
"Tomorrow will be
thrashing day."

Cull your ewes now to save feed and boost profits. Keep only good producers, the ones that raised one or more thrifty lambs last spring. Market those with poor fleeces, excessive wrinkles, broken mouths, jaws of uneven length, or unsound udders.

Swift & Company UNION STOCK YARDS CHICAGO 9, ILLINOIS

It's extra care that cuts shipping fever losses among feeder cattle. Vaccination also will produce a measure of immunity. After cattle reach the feedlots, provide them with shelter from cold winds and rain. Give them light, bulky feeds such as whole oats and roughage. Cattle fall easy prey to shipping fever when they are run down, due to fatigue, exposure, or irregular feeding. If animals *do* fall sick, isolate them promptly and call a veterinarian.

FEED SUPPLY AND MAXIMUM DAIRY PRODUCTION

by E. A. Gannon
Extension Dairyman, Purdue University

More and cheaper milk will be produced by many herds if and when better feeding systems are used. Where good quality legume hay is fed, grain ration averaging 10-12% protein is sufficient. With good quality legume hay and silage, grain ration should consist of 12-14% protein. With mixed hay of good quality with or without silage, grain ration of 12-16% protein is desirable. Where corn fodder, stover or straw is the main roughage, with or without silage, an 18-20% protein grain ration is required.

Weighing of silage occasionally will determine if it is being overfed at the expense of roughage. Normally, one pound of hay and three pounds of silage per 100 pounds of live weight is recommended. In the case of fresh cows, during the first three or four weeks of lactation, silage may be reduced to 1½ pounds per 100 pounds of live weight and hay increased proportionately. Grain should be coarse ground and mixed with ground soybean supplement or 32-34% commercial feeds, to obtain desired percentages of protein, based on type and quality of roughage.

Cows should be fed according to daily production—for high-testing breeds, feed one pound of grain for 3-4 pounds of milk. For low-testing breeds, feed one pound of grain for 5-6 pounds of milk.

• • • NUTRITION IS OUR BUSINESS—AND YOURS • • •
Right Eating Adds Life to Your Years—and Years to Your Life

From
MACMILLAN
60 Fifth Avenue
New York 11, N. Y.

Texts and references for vocational courses

Aircraft Woodwork
By R. H. Drake
This text by an experienced teacher presents the background information, full instruction in tools and techniques, and step-by-step shopwork for a course that meets all the CAA requirements for the aircraft mechanic's license in woodwork.
To be ready Sept. 17. Illus. $3.50 (prob.)

Simplified Punch and Diemaking
By James Walker and C. C. Taylor
Practical instruction, including the latest methods and materials, in the design, construction and operation of punches and dies, progressing in teachable order from the simplest through those of increasing complexity until all types used for the fabrication of sheet metal have been covered. Illus. $5.

Practical Marine Electricity
By S. N. LeCount and H. S. Dusenbery
A complete course in the electrical fundamentals and the installation, operation and maintenance of every piece of electrical equipment on modern merchant ships. Illus. $3.50

Introduction to Navigation and Nautical Astronomy
By Shute, Shirk, Porter and Hemenway
An outstandingly clear, complete text on both sea and air navigation, written by four successful teachers and checked by Coast Guard and Naval authorities. Many specially drawn illustrations, 400 practical problems, full tables. $4.50

Aircraft Drafting
By H. H. Katz
Written by a man who has trained hundreds of draftsmen for Republic Aviation and Consolidated-Vultee, this book includes much useful information on manufacturing practices as well as full, clear instruction in aircraft drafting techniques. Illus. $5.

Plastic Craft
By Ernest DeWick and J. H. Cooper
Illustrated instruction in the tools and techniques for working plastics, with about 70 projects, ranging in difficulty from the very simplest, and suitable for any type of school or home shop and for work in the art studio. *October,* $4.25 (prob.)

America's Fabrics
By Zelma Bendure and Gladys Pfeiffer
A complete reference on today's fabrics: their history, each step in their manufacture from raw materials to final finish, their classification, characteristics, standards, etc. Over 700 illustrations, 12 in full color, and an illustrated dictionary of fabrics at the end.
October, $10. (prob.)

The Craftsman Prepares to Teach
By D. F. Jackey and M. L. Barlow
Simply written, practical directions for planning and conducting all types of vocational courses. A useful handbook for inexperienced teachers. $2.

Representative Advisory Committees

(Continued from page 13)

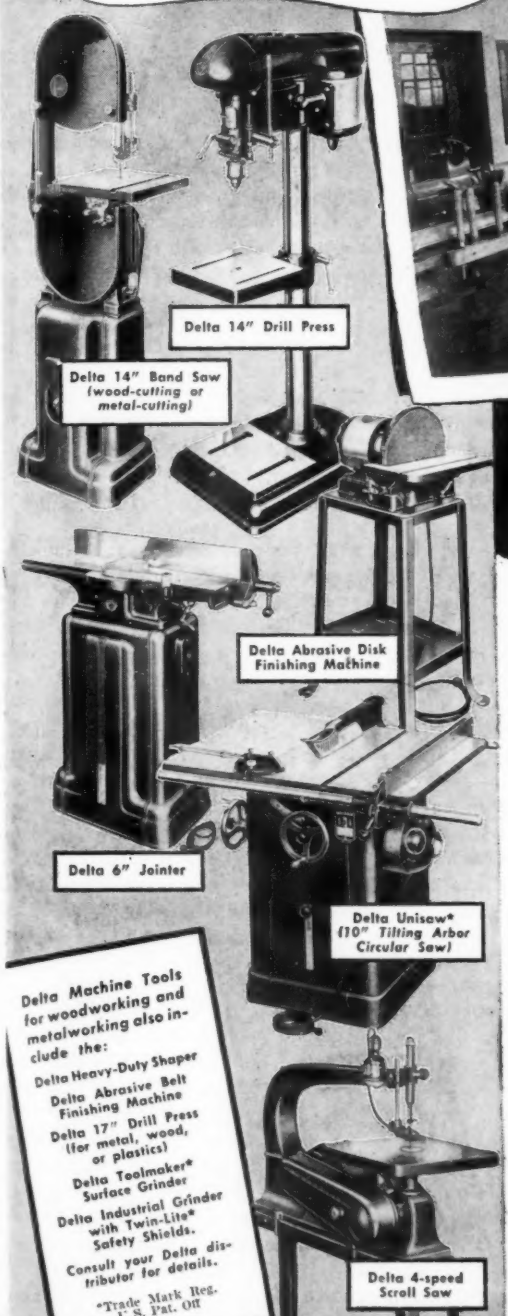
When asked if these representatives were nominated by their respective organizations, Dr. Horridge replied very definitely that they were so nominated, and then appointed by the schools. His philosophy is that no member can represent any group unless that group has designated him to serve as their representative. The occupations for which instruction is offered and for which committees have been organized include auto mechanics, auto body and fender repair, auto parts and accessories, aircraft, accountancy, bakers, culinary, carpentry, cabinetmaking, brick masons, draftsmen, machinists, plasterers, plumbers, lathers, cement finishers, refrigeration, sheetmetal, radio service, petroleum refining, petroleum production, instrument service, cleaners and dyers, meat cutters, painters, upholsterers, welders, printers, Venetian blind workers, and marine occupations (electricians, shipwrights, patternmakers, boat-builders, boiler-makers, pipe-fitters, machinists, sail-makers, riggers, shipfitters, sheetmetal workers, painters, instrument repair, and joiners).

The advisory committees meet each month. These committees take keenly their responsibility for providing schools with advice and counsel on the many problems which arise in connection with training. Many fine recommendations have been made and accepted by the schools. Committees discuss such pertinent questions as qualifications of instructors, sources from which instructors may be drawn, numbers of apprentices to be admitted to training, numbers of high school youth who have not entered upon apprenticeship who should be prepared, the function and content of courses of study, types and amount of equipment necessary to provide training in keeping with standard practices of the craft, length of the training period, and other conditions.

One of the developments which reflects this full cooperation and indicates a definite trend is the apprentice training program. Many of the crafts participating in the program require apprentices to attend school not only for related and technical instruction but for certain types of shop work after they enter the job as fulltime apprentices. The plan under which the training is offered also provides that they spend periods of time, varying from three to six months in fulltime attendance in school prior to entering upon the job. During this time the apprentice receives the preliminary training which the crafts deem can best be given by a qualified instructor in the school shops and laboratories. As rapidly as possible other crafts will inaugurate such a procedure for their apprentices.

Long Beach is one example. Other communities in California have and utilize advisory committees just as fully. In fact, the state plan for trade and industrial education requires that each community establish representative advisory committees and that the representative members be chosen from a list of nominees submitted by labor and management organizations. This is one of the best devices the schools can use to develop desirable public relations which "pay off."

Students of Hutchinson High School, Hutchinson, Minnesota, get the training that industry wants — on Delta Machine Tools, the machines that practically every branch of American industry uses.


Delta 14" Drill Press
Delta 14" Band Saw (wood-cutting or metal-cutting)
Delta Abrasive Disk Finishing Machine
Delta 6" Jointer
Delta Unisaw* (10" Tilting Arbor Circular Saw)
Delta 4-speed Scroll Saw

Delta Machine Tools for woodworking and metalworking also include the:

Delta Heavy-Duty Shaper
Delta Abrasive Belt Finishing Machine
Delta 17" Drill Press (for metal, wood, or plastics)
Delta Toolmaker* Surface Grinder
Delta Industrial Grinder with Twin-Lite* Safety Shields.

Consult your Delta distributor for details.

*Trade Mark Reg. U.S. Pat. Off

5 reasons why your Delta Machine Tools maintain precision accuracy throughout a long life...

1. **Lubricated-for-life Ball Bearings.** These bearings are double-sealed against harmful shop dust. They eliminate a maintenance problem because they are *lubricated for life* when they leave the factory.
2. **Pre-loaded Bearings.** This is the result of an extra manufacturing operation that reduces the "play" in the bearings. This helps you enjoy long-time operating efficiency with less frequent replacements.
3. **Precision-bored Bearing Seats.** These bearing seats help keep all parts lined up properly, so that your students have greater assurance of producing finished pieces exactly according to dimensions.
4. **Precision-ground Shafts.** These shafts run without any "wobbling" which might throw off students' measurements.
5. **Dynamically-balanced Pulleys.** The pulleys which transmit the power from motor to tool are dynamically balanced, to help eliminate annoying, damaging vibration.

Durable Delta Machine Tools reduce your initial investment . . . help cut operating and maintenance costs. They are compact and portable, permitting quick floor rearrangement as projects change. Their convenient height makes operation easier for small students. They are fully safeguarded, meeting the acknowledged rigid provisions of the Wisconsin Industrial Commission.

Free! 44-page Delta book, "How to Plan a School Workshop," provides you with photographs and layout drawings of 30 typical shops, for schools large and small. Also serves as a condensed guide to principles of shop planning . . . to the selection, placement, and efficient use of the major power tools. Request it — and catalog of low-cost Delta Machine Tools — by using coupon at right.

Make Delta Machine Tools — the standard of industry — your standard in the classroom.

S-24

Tear out coupon and mail today!

DELTA MANUFACTURING DIVISION
755K E. Vienna Ave., Milwaukee 1, Wisconsin

Please send me my free, personal copy of:

☐ "How to Plan a School Workshop."
☐ Catalog B-15 describing low-cost Delta Machine Tools.

Name.....
Position.....
School.....
Address.....
City.....(.....) State.....

DELTA MILWAUKEE REG. U.S. PAT. OFF.

Delta Manufacturing Division
Rockwell Manufacturing Company
Milwaukee 1, Wisconsin

ROCKWELL DELTA

THE VOCATIONAL OUTLOOK

● Production, chemistry, and uses of coal are taught by experienced men in a new three-year course in the McDowell County Vocational School, Welch, W. Va. Air shaft tunnels, a railroad track with mine cars, a coal mine ventilating system, and other functional equipment of modern mines are part of the school equipment. The objective is to provide technical training for miners' sons who wish to advance in the coal industry. The vocational school starts with the 10th grade and continues through the 12th. Students spend half-time in high school and are carried by busses to the vocational school for technical instruction the remainder of the day. Night courses in mine maintenance and operation for adult coal miners and discharged service men unable to attend day courses, are planned.

● A new $225,000 building at Nashville, Tenn., will house a trade school to train Negroes in the general metal trades, auto mechanics, foundry work, and building construction. The building, now nearing completion, will provide facilities for training 200.

● Training for semi-professional positions in forestry is being given by the School of Vocational and Adult Education in Rhinelander, Wis. Many companies in Wisconsin are buying land in the northern part of the state and are planning for proper timberland management. The program prepares for jobs essential to carrying out such reforestation. Of the three 12-week periods, for a total of 1,440 hours, approximately half-time is spent in classwork, the other half in field work carried on in close cooperation with the U. S. Forestry Service, Wisconsin Conservation Commission, and private concerns engaged in pulp and lumbering operations.

● Michigan State College is sponsoring cooperative training courses in farm machinery repair and maintenance, nursery practices, and grain elevator management and operation. Trainees are employed in various parts of the state and spend alternate periods working on the job and attending related subjects classes on the campus.

● Madison, Wis., has approved a referendum for $1,000,000 for a six story addition to the Vocational School building, to house shops and laboratories. The first unit of the Vocational School was erected in 1920 and with completion of the addition Madison Vocational School will have one of the best vocational school buildings in the state.

● Ship propulsion may be the first practical power application of nuclear energy, according to Harry A. Winne, vice president of General Electric Co. The low volume of atomic fuel makes possible a range of a million miles without the use of even the normal space for shipboard fuel storage and eliminates need for a task force with oil supplies.

● Plastic parts, such as are used in radio cabinets, lamp shades, electric toaster bases, etc., now can be molded in half the time required in prewar years due to manufacturing and material improvements such as development of electronic pre-heating devices. Continued improvements should increase both the uses and volume of plastics products. General Electric Co. is now the largest producer of finished plastics products in the world.

● A cooperative research project between the Model Industry Association, Inc., and the Industrial Education department of Texas A & M College has been inaugurated looking toward standardization of the industry. The research will involve grading and evaluation of model airplane kits now on the market to provide a pattern acceptable to schools and recreational groups. Courses of study for public schools in model aircraft design, construction, and flight will be prepared. Glenn M. Tindall, executive director of the Model Industry Association, Chicago, and Chris J. Groneman, acting head of the Industrial Education Department of the college, made arrangements for the study. Rogers Barton, model airplane designer and builder, winner of many model airplane contests, and a member of the college engineering drawing staff, has been assigned to the project. The industry includes models of airplanes, jeeps, trucks, trains, etc., and has a $50,000,000 volume of business per year.

The Best In **FILMS!**

Only the best in films are selected for our comprehensive library. Over 1300 subjects on Vocational Guidance, Work Supervision, Industry, Transportation and Communication, Home Economics, Entertainment, and others, including Encyclopaedia Britannica Films! Our four strategically located exchanges are ready to provide you with films at low rental, service charge, and FREE.

LATEST FREE FILMS

"THE BUILDING OF A TIRE," 3 reels, in color (With Animation by Walt Disney), Creating a Tire.

"THE MAGIC OF COAL," 2 reels, the Story of Bituminous Coal.

"GLIDING WINGS," 3 reels, Development, Production, and Employment of Gliders.

"WORKING ON AIR," 2 reels, Development of the Airplane Propeller.

"THE GENTLE ART OF MEAT COOKERY," 3 reels, Roasting, Braising, Broiling, Stewing, and Carving of Meat.

"SIGHTSEEING AT HOME," 1½ reels, Development and Operation of Television.

For further information on any of the above films or the 1946-1947 edition of the

CATALOG OF SELECTED MOTION PICTURES

write to Dept. K

ASSOCIATION FILMS

(Y.M.C.A. MOTION PICTURE BUREAU)

NEW YORK 17, 347 Madison Ave. · SAN FRANCISCO 2, 351 Turk St. · CHICAGO 3, 19 So. La Salle St. · DALLAS 1, 1700 Patterson Ave.

6 New Wall Charts

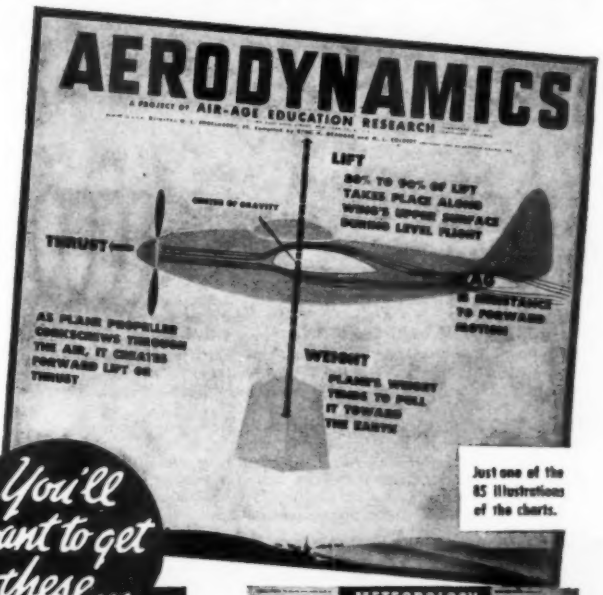
MAKE AVIATION INSTRUCTION EASY

Big, High-Visibility Classroom Charts *In Colors* Reveal Know-How of Air Transportation

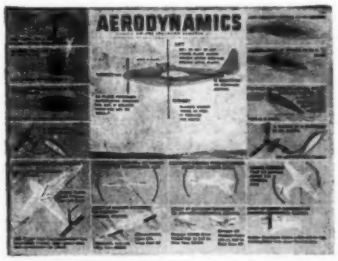
Now there's an easy, time-saving, low-cost way to present the facts of aviation.

It's the Air-Age Picture Chart way, practically a course in aviation by itself. Six full-color picture charts explain the essentials of aviation in simple language—big, complete, easy to read, almost 4 feet wide by 3 feet high.

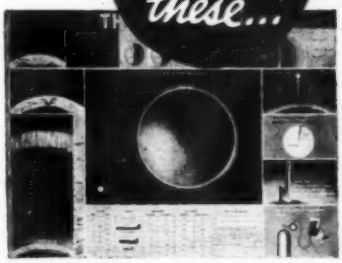
They help to teach the things known to pilots, engineers, meteorologists and other experts. Booklets, giving added information on the subjects of all charts, are also available—through Air-Age Education Research on a non-profit basis... $1.00 per chart ($5.00 per set of six) ... 25c per booklet. Fill out the easy-order coupon, and send it in today.



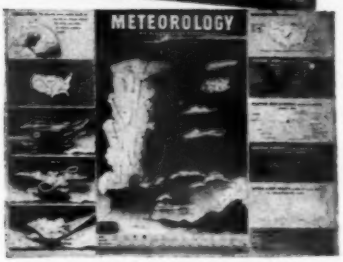
You'll want to get these...



1. AERODYNAMICS, the principles of flight

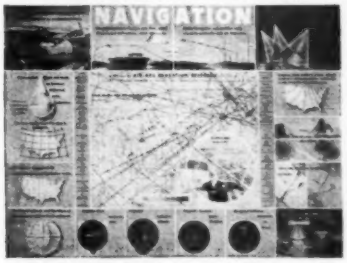


2. THE AIR OCEAN, story of the atmosphere

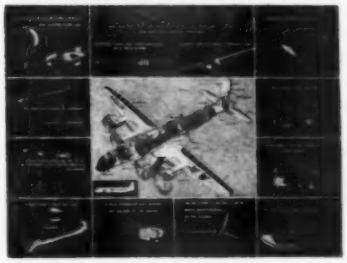


3. METEOROLOGY, weather's part in flying

4. RADIO NAVIGATION, equipment and its use



5. NAVIGATION, celestial, contact, etc.



6. AIRCRAFT, ships, planes, jets, flyingwings

Air-Age Education Research

Director, N. L. ENGELHARDT, JR.

Fill In And Mail ➡

(with cash or money order — no stamps, please)

AIR-AGE EDUCATION RESEARCH, 100 East 42nd Street, New York 17, N. Y.

Enclosed is $ _____ for _____ Air-Age Picture Charts and _____ booklets.

Please send them to NAME _____

STREET ADDRESS _____ CITY AND STATE _____

When writing advertisers please mention *American Vocational Journal.*

BLOWER COOLED
. . . AND LIGHT WEIGHT, TOO

TRIPLE-PURPOSE
GoldE
FILMATIC
Slide and Film Strip
PROJECTOR

3 way use
- For Single Frame Slidefilm
- For Double Frame Slidefilm
- For 2x2 (35mm) Kodachrome or Black and White Slides

- Motor-Driven Forced Air Cooled
- No Rewinding Necessary
- Anastigmat Projection Lens
- Smooth, Sharp Focusing
- Easily Adjustable for Either Horizontal or Vertical Pictures
- Instant Framing
- Manumatic Slide Carrier
- Professional Efficiency
- Rugged—Stable—Portable

The GoldE Filmatic enables you to make the most effective use of *all three* types of still projection material. Can be changed from film to slide showing in a jiffy! Permits use of 300 as well as 200 or 100 watt lamp for more brilliant projection . . . yet safeguards precious slides or film against heat damage. Cooler handling. Complete with carrying case.

GoldE Manufacturing Company
1216-C West Madison Street, Chicago 7, Illinois

WHAT JOB?

FINDING YOUR LIFE WORK

Machinist and Toolmaker?
Bookkeeping and Accounting?
Poultry Raising? . . . Dairy Industry?
Nursing? . . . Photography? . . . Teaching?

30 SEPARATE FILMS—COMPLETE AND AUTHENTIC

"Your Life Work" Films

VETERANS, ADULTS, YOUTHS—all are going to work and want to know about jobs. What the worker does . . . personal qualifications . . . training required . . . working conditions . . . promotional opportunities . . .

Teachers and Counselors: Make use of these counseling tools in discussing jobs with veterans, in-school youth, or adults in need of training or retraining.

Write for Complete Information

VOCATIONAL GUIDANCE FILMS, INC.

International Distributors—CARL F. MAHNKE PRODUCTIONS
2708 Beaver Ave. Des Moines 10, Iowa
7514 N. Ashland Ave. Chicago, Illinois

Labor, Management and Education Speak

(Continued from page 25)

management and labor would begin them in grades ten to twelve.

21. While a large percentage of all groups would confine industrial education in the full-time general high school to industrial arts, a majority of all except management would not. This would suggest that the majority favor day trade classes as well as industrial arts in the general high school.

22. A majority of all groups, except college deans and presidents, favor having day trade students spend half of the school day in the shop. However, there is considerable disagreement with the practice, and many are undecided.

23. School shops, in the majority opinion of all groups, should remain open during the summer for training purposes. While this would require supervision and additional expense, it is one of the "new frontiers" in industrial education.

24. A majority of all groups favor the idea of organizing trade schools on a state or area basis where needed. Management and college men are less in favor of this than the other groups.

25. There is a great difference of opinion as to whether the trade teacher with experience in one trade is preferable to one with equal experience spread over several trades. State and local supervisors and labor leaders favor experience in one trade; management, superintendents, and college men favor a variety of trade experience, or are undecided.

26. A majority of all groups, except management, favor Federal aid for industrial arts as well as vocational-industrial education. A majority of management are either undecided or opposed to Federal aid for either type of industrial education.

27. While a large percentage of every group believes that there can be no Federal aid for industrial education without a large degree of Federal control, a majority of each group, with the exception of management, either believes that we can have Federal aid without Federal control or are undecided on the issue.

28. Aside from labor and state supervisors, a majority of all groups are of the opinion that the purposes for which Federal industrial education funds may be spent should be determined by the states and local communities, not by the Federal government. A large percentage of labor and state supervisors favor determination of purposes by the Federal government.

29. A majority of labor and management and some groups of educators, notably teacher trainers, are of the opinion that vocational-industrial education, as developed under the Federal vocational education acts, has not satisfactorily met the needs of youth and adults in their community and state, or are undecided on the matter. The most common criticism made in the "comments" was that the training is too narrow and reaches too few people.

30. In the opinion of a majority of all groups except superintendents and college deans and presidents, graduates from trade and vocational schools adapt themselves more readily to industrial employment than do graduates from general high schools.

1947 NATIONAL INDUSTRIAL ARTS FAIR

AT long last industrial arts is to have a "national showcase" to display its fine work. The event: the first National Industrial Arts Fair. Time' August, 1947. Place: Some centrally located large city, to be announced.

This Fair will climax the new Scholastic Industrial Arts Awards program. More than 600 prizes and awards, valued in excess of $3,000, are offered. Students can enter work in one or more of 17 categories.

Industrial arts leaders are helping every step of the way. When *Scholastic Magazines* asked whether an awards program, similar to the highly successful 20-year-old Scholastic Art Awards would be welcome, industrial arts leaders answered, "Yes." An advisory group selected the classifications and helped to write the rules. A larger advisory committee will guide the entire program. Major industries sponsor the awards.

August has been selected as the exhibition month so that industrial arts teachers may themselves come to the Fair. Press publicity will make the entire nation aware of industrial arts progress.

A National Rules Booklet for the Scholastic Industrial Arts Awards competition now is in press. It will go to every industrial arts teacher whose name can be found. It gives full details.

Industrial Arts Awards will motivate students to higher workmanship standards. They will assure national recognition for distinctive shop work and help teachers to know and work toward higher standards. New type projects will receive deserved attention.

Prizes for Many Kinds of Work

Tell your students about this new industrial arts program. There are 17 kinds of shop work and printing that can win Scholastic Industrial Arts Awards. All award-winning pieces will go on display in the first National Industrial Arts Fair.

Grouping assures equal opportunity. Junior high school student work will be judged in Group I; senior high school, Group II; students who receive more than 10 hours per week instruction, Group III.

For each of the following classifications there will be, typically, three prizes: $50, $25, $10, or equivalent merchandise, such as lathes, saws, etc. and nine honorable mentions. Honorable mentions will be awarded with due consideration to size of community. Since students may enter work for one of three groups there will be 36 possible awards for each of 17 classifications:

Wood. (Projects in which the major material is wood.)

W1—Carving. Any wood article which features a carved design.

W2—Furniture making. Any small piece of furniture or accessories used in the home.

W3—Pattern making. Any pattern made for casting any metal. Sponsor: Delta Manufacturing Division, Rockwell Manufacturing Co.

Metal. (Projects in which the major material is metal.)

Sheet Metal.

M1—Copper—but not copper jewelry.

M2—Brass.

M3—Aluminum. Sponsor: Aluminum Co. of Amer.

Bar Stock.

M4—Hand tools. Generally steel; punches, clamps, calipers, hacksaw frames, etc.

Mechanical Drawing.

D1—Freehand sketching and working drawings of any industrial arts project.

D2—Machine drawing. Working detail drawings, assembly drawings, and isometric drawings of machines and machine parts.

D3—Architectural drawings. Houses, rooms, garages. Sponsor: Park Instrument Co. Supplementary awards: Higgins Ink Co., C. Howard Hunt Pen Co.

Printing.

P1—Single impression letter press printing.

P2—Printing in two or more colors, letter press.

P3—Posters, letter press.

P4—Silk screen work of various kinds.

P5—Bookbinding.

Model Making. (Limited to non-operating models.)

MM1—Non-military aircraft.

MM2—Miscellaneous models such as boats, vehicles, houses, furniture, etc. Sponsor: X-Acto Co.

Write for Rules Booklet, Scholastic Industrial Arts Awards, 220 East 42nd St., New York 17, N. Y.

Working on the rules: F. C. Moore, industrial arts supervisor, Cleveland; G. H. Fern, *American Vocational Journal* managing editor; R. G. Fales, industrial arts supervisor for New York

testimonial to Frank Cushman

EDITOR'S NOTE: **Frank Cushman, consultant, vocational education, retired on June 30, 1946, after a long and active career in vocational education. An open letter of tribute from his chief, Dr. J. C. Wright, who retired on the same day, was received together with an elaborate scroll from his fellow workers in the U. S. Office of Education, bearing the inscription that follows.**

THE retirement of Frank Cushman from active service as a master teacher and national leader in the field of vocational education marks the culmination of nearly 50 years of brilliant achievement as a practical educator. The loss of his fruitful guidance and far-reaching influence as a valued member of the staff of the United States Office of Education is a matter of sincere regret to his many friends and coworkers. Paralleling this sense of loss is a keen realization and a deep appreciation of the wide range of important contributions which he has made as a pioneer in trade and industrial education.

This Testimonial represents an official recognition of Frank Cushman and his valued services by the following groups and associations: The Staff of the Vocational Division of the United States Office of Education; The American Vocational Association; The National Association of State Directors of Vocational Education; The National Association of State Supervisors of Trade and Industrial Education; The National Association of Industrial Teacher Trainers; The National Council of Local Administrators of Vocational Education and Practical Arts.

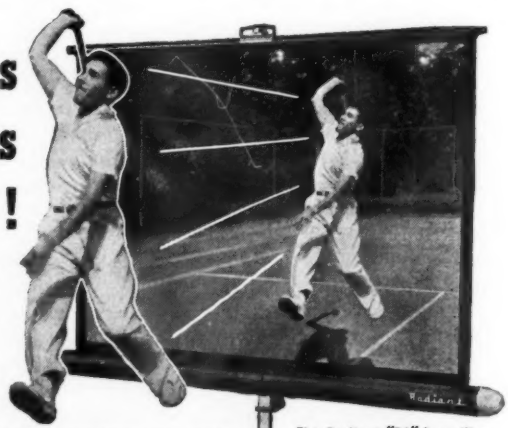
His influence and practical assistance has extended even beyond these groups into many areas of industry, labor, public service, and the armed services. He is recognized as an outstanding leader in the field of job analysis, the preparation of instructional materials based on these analyses, foreman training, conference leader training, training for supervisors, and the training of civilian supervisors, instructors, and workers for the United States Navy. He will always be remembered and admired by those who worked with him during his long and productive professional career, and he will receive the homage of a host of others in this and future generations.

His range of service in education has included all types of positions at the local, state, and national levels, including 16 years as Chief of Trade and Industrial Service in the United States Office of Education. He is the author of significant books and bulletins.

The contributions of Frank Cushman to the profession to which his entire life was dedicated are numerous and of permanent value. His colleagues and friends have chosen this testimonial as a means of expressing their recognition and appreciation of his leadership and accomplishments. This token carries with it the sincere hope that the years of retirement may be many, and that they will be filled with the happiness, contentment, and satisfaction which he so richly deserves.

New 1947

RADIANT Screens make all pictures look better . . . !



Project your motion pictures and slides on a screen which makes them fairly "POP OUT" into the room with you. Thrill to sharper, clearer black-and-white pictures . . . richer, more vivid color shots. Such performance is the result of the Radiant "Hy-Flect" Screen surface . . . thousands of tiny glass beads set in the snow-white plastic screen surface—glass beads that *reflect* light, never absorb it. You get this in New 1947 Radiant Screens . . .

***Plus* all these Wonderful Exclusive New Features**

1. Automatic Leg Opening (Pat. Pending)
2. Screen Leveller (Pat. Pending)
3. Shakeproof Safety Catch
4. Feather Touch Adjusting Handle (U. S. Patent)
5. Double-Action Auto-Lock (Pat. Pending)
6. Built-In Shock Absorbers (Pat. Pending)
7. Automatic Leg-Lock
8. Rubber-Ball Tripod Feet
9. Triangular Steel Tube Construction
10. Automatic Leg Adjustment
11. Finger Grip Carrying Handle
12. Streamlined Design and Duo-color Scheme

All pictures look better . . . when projected on the new, brilliant, instantly adjustable 1947 Radiant Screens.

RADIANT

Reg. U. S. Pat. Off.

BETTER SCREENS FOR BETTER PROJECTION

Send for FREE Screen Guide "Secrets of Good Projection," a 32-page booklet, gives proper screen sizes, correct projection lenses, tips for improving projection and many other valuable facts. Mail coupon for your FREE copy.

The Radiant "DL" here illustrated is portable, sturdy, compact, easily set up, quickly adjustable. The Radiant line includes Wall, Ceiling and Table Models in sizes 22" x 30" to 20 feet by 20 feet and larger.

SECRETS OF GOOD PROJECTION

Radiant Manufacturing Corporation
1172 W. Superior St., Chicago 22, Ill.
Send me FREE copy of "Secrets of Good Projection"—also circular showing complete line of Radiant Portable, Wall, Ceiling and Table Screens.

Name_____
Address_____ Zone_____ State_____
City_____

Look Over Your Farm Shop

EDITOR'S NOTE: In the May issue of the AVJOURNAL a floor plan for a farm shop and a list of questions appeared. Answers to these questions and comments were solicited. Teachers of vocational agriculture will be interested in Mr. Vapaa's letter in reply. It is hoped that the questions raised in the last paragraph will stimulate further contributions and comments.—*GHF.*

DEAR *AVJournal* Editor:

This letter is in answer to the article, "Look Over Your Farm Shop," which appeared in your May issue. I was impressed by the similarity of your plan to that of our own farm shop, which I laid out in 1940, after attending a course under Prof. Roehl at Cornell in the summer of 1939.

I like the size and layout of your plan, but for a farm shop it seems a bit ambitious. Lathes are not essential—but of course do find some use. The problem becomes one of maintenance since so many inexperienced people will use them, and very few become really proficient or even require their use. I am wondering if your lumber rack is not just a little short. Will it take a 16' board? Are the windows all in back of the work benches? No mention is made of the composition of the floor. We would use concrete on the left half and wood flooring on the right. It simplifies cleaning up, which brings up a point. For farm shop training we feel that a boy should always clean up his own mess, as well as assist in the general maintenance. Some provision should be made for brooms, trash boxes, and scrap materials. Each boy at this school has a small personal locker located under the workbenches.

As to your questions, every Vo-Ag program should include farm shop, be it only on a minimum scale, but the farm shop need not be separate from the general shop in a small school. A separate building is to be desired for the shop and Ag classroom. This simplifies the evening school program and the FFA extra-curricular activities. The shop should be close enough to the main building so that classes can move freely in bad weather. We integrate the farm shop with the regular class work as much as possible. Unless a boy is taking vocational agriculture, we do not schedule him for farm shop; but a manual arts student who has a farm shop job can use the shop for manual arts.

Our tools and equipment for the most part are adequate. We are planning to get an electric welder and some auto repair machinery. Ten or 12 students are enough, normally, to have in the shop at any one time. We provide two double-hour periods per week for farm shop, and allow a boy to spend more time in the shop if he maintains a "B" (good) average in his other school work. Any school that can form a class of eight students should provide Vo-Ag training for four years if possible.

I should appreciate reading other articles on this subject as I believe that the farm shop program represents the core of our agriculture program. Also, I am looking for a good, simple method of arranging subject matter in a filing system, so it can be filed by lesson plans, and the best method of storing charts—rolled and flat.

Very truly yours,

GEORGE VAPAA

Vocational Agriculture Teacher
Special School District
Harrington, Delaware

don't take a *job!*

choose a *career!*

GUIDANCE TO TWO INTERESTING, REWARDING FIELDS

Personnel work has taken giant strides in the last decade. New techniques—psychological testing, scientific interviewing, aptitude studies have enormously expanded its usefulness. This book analyzes and explains every phase of personnel work, using actual success stories as illustrations, discusses qualifications, and surveys actual jobs in the field. *Introduction by Forrest H. Kirkpatrick, Personnel Administrator, Radio Corporation of America.* Illustrated with photographs. $2.75

CAREERS IN PERSONNEL WORK

by D. M. SMYTHE

What the prospective social worker or neophyte should know about the field is contained in this unusually complete book. The basic aims and activities of social service agencies are explained. Personality requirements, education and training, schools and courses offered, cost, "in-service" training, salaries, are all thoroughly discussed. A complete list of schools and organizations is included as well as a complete bibliography and index. Illustrated with photographs. $2.75

CAREERS IN SOCIAL SERVICE

by EVELYN STEELE *and* H. K. BLATT

Both books prepared in collaboration with VOCATIONAL GUIDANCE RESEARCH

AT ALL BOOKSTORES

E. P. DUTTON & COMPANY, INC., 300 Fourth Avenue, New York, N. Y.

RADIO-ELECTRONIC INSTRUCTION *Simplified*

Ghirardi's RADIO PHYSICS COURSE

Complete Basic Training

The fact that this 972-page book is more widely used for basic Radio-Electronic instruction in more schools and for more U. S. Signal Corps and Navy work than any other book of its kind, tells its own story of unsurpassed teaching efficiency!

Contains 508 diagrams and illustrations. 856 Review Questions provide a complete instruction guide. A big advantage of Ghirardi's RADIO PHYSICS COURSE is that it has over 300 pages devoted to Basic Electricity without which no modern electronic training can hope to be complete. Specifically written for beginners. Makes the subject easy to teach—because it is written so students can understand every word. List $5

Ghirardi's Complete MODERN RADIO SERVICING

Test Instruments—Troubleshooting—Repair

The only complete, 1-volume course in Radio repair work. 1300 pages, 723 review questions, 706 illustrations. Covers troubleshooting and repair of receivers by modern engineering methods. Explains test instruments—how, when, where and why to use them—even how to build your own. Ideal basic training for Electronic servicing of any sort. Thorough, clear, easily understood. Ideal for either class instruction or home study. List $5

NEW! THE PRACTICAL WAY TO TEACH ELECTRIC MOTOR REPAIR

Eliminates the "Headaches" of Teaching a Difficult Subject!

Robert Rosenberg knows ELECTRIC MOTOR REPAIR and how to teach it—because he himself is a vocational motor repair instructor of long standing. Now you can obtain his course in completely detailed book form. It is specifically designed to start students "from scratch" and carry them through to all types of actual bench work.

ELECTRIC MOTOR REPAIR explains motor trouble diagnosing, repair and rewinding. Covers all types of motors as well as mechanical and electronic control systems. Every step demonstrated by both text and over 900 diagrams. Unique duo-section spiral binding arrangement exposes both text and related diagrams simultaneously. Lies open flat on school bench. The only complete, modern, fully practical book on this vital vocational training subject. 580 pages. List $5

MHB

MURRAY HILL BOOKS, INC.
232 MADISON AVE., NEW YORK 16, N.Y.

HAVE YOU TRIED THIS?

The *AVJ* solicits new ideas, shop kinks, and new teaching aids for the use of teachers in all fields of vocational and practical arts education. Send a photograph, a drawing, or a sketch with your description.

Help other teachers by sending your experiences to the *AVJ*. Two dollars will be paid for each item that is used. Send to: Managing Editor, American Vocational Journal, 220 East 42nd Street, New York 17, N. Y.

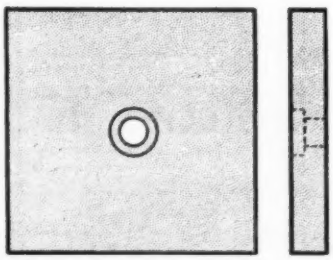
Plexiglas Clock Crystals

EQUIPMENT required for making replacement clock crystals can be made from waste materials: A bicycle valve with lock nut secured to a stout board; spring clamps; heat and air pressure.

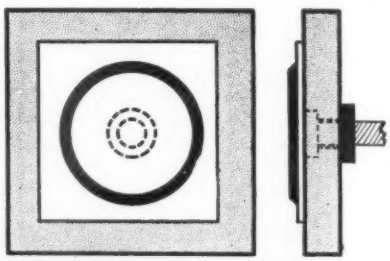
Procedure—For Big Ben or smaller:

1. Face and sand well with finishing paper a wooden block 1"x7"x7".
2. In center of surfaced side countersink to accommodate flange of valve and drill remainder of 1" board the size of valve stem. Attach valve stem and make air tight joint with lock nut, leaving faced plane free of obstruction by valve.
3. Secure plate in horizontal position with faced plane up; attach a foot pump or other air supply to valve stem.
4. Have your No. 3 Handy Spring Clamps (or their equivalent) ready for use.
5. Remove clock crystal retaining rim and have ready for use.
6. Cut a piece of .100" Crystal Clear Plexiglas leaving a 1-inch margin over required size and remove masking paper.
7. Heat oven to about 300° F. All Equipment is now ready. Operations must be performed within a few minutes.
8. Heat to rubbery flexibility (about 5 min.) and with tongs remove Plexiglas sheet to faced plate, nearly centered over valve. Place clock face rim over hot Plexiglas and secure with clamps. Apply air pressure until hot Plexiglas convexes to desired shape and continue pressure until plastic cools (about 2 min). The new crystal will have conformed its shape to the exact contour of the face rim, and all excess stock may be cut off with coping, scroll, or band saw.

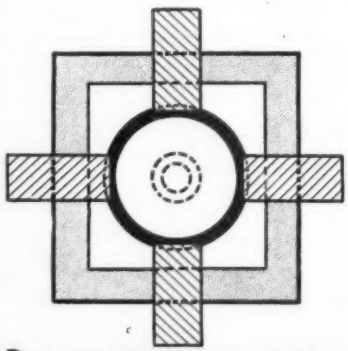
J. T. Raiford
Northfield, N. J.



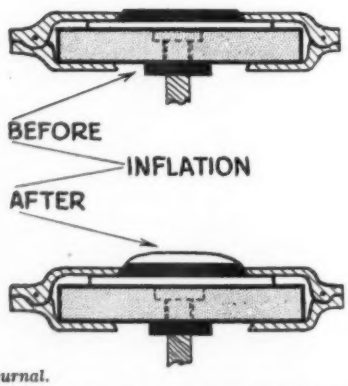
WOOD BLOCK FACED, COUNTERSUNK & DRILLED



PLEXIGLAS & RIM IN PLACE WITH VALVE LOCKED IN



RIM CLAMPED WITH HANDY CLAMPS



with the Associations

Chris H. Groneman, Professor and Acting Head of the Industrial Education Department, Texas A & M College, will lead the Texas Vocational Association as president during 1946-47. Other new officers who assume their duties September 1, are C. P. Munz, industrial arts teacher, Alvin, vice president for industrial arts; Brice Cecil, supervisor, business and distributive education, Austin, vice president for that field; W. E. Williams, teacher helper in agriculture, Alpine, vice president for agriculture; Bess Barnes, teacher trainer for homemaking, San Marcus, vice president for homemaking; C. G. Fairchild, rehabilitation supervisor, Austin, vice president for rehabilitation; Chas. A. Johnson, director of vocational education, University of Houston, vice president for trade and industrial education; Mrs. Chas. R. Allen, vocational guidance, San Antonio Vocational School, vice president for vocational guidance; Aubrey L. Crossland, agriculture instructor, Teachers College, Canyon, vice president at large.

Chris H. Groneman

Three hundred members of the TVA met in Waco this year for their first postwar convention. In addition to the sectional meetings, three general meetings were held.

M. D. Collins, state superintendent of schools for Georgia, was presented with a life membership in the AVA at a testimonial luncheon in his honor given by the GVA, in Atlanta. Educators and state officials joined in crediting Dr. Collins for his part in "bringing Georgia out of the basement in education" during the past 13 years. M. D. Mobley, state director of vocational education, presented the life membership and delivered the keynote address, recalling that in 1932-33 Georgia received $334,000 in Federal and state funds for vocational education and last year received $946,000.

Dr. Collins has been active in school work for 43 years and been state superintendent since 1933.

The annual banquet of the Peninsula Industrial Education Club of Virginia, which was founded in November, 1936, was held this year at Hilton Village. Speakers were B. H. Van Oot, state director of trade and industrial education, Virginia; Stanley Pawelek, supervisor of industrial education, and Charles W. Sylvester, director of vocational education, Baltimore, Md., who gave the closing address. He urged that state and local communities put more money into vocational education, that the base be broadened, and that proper supervision be given veterans' educational programs.

Officers of Mu Sigma Pi Graduate Fraternity in Industrial Education at Wayne University, Detroit, Mich., are: Walter H. Jeske, president; Gordon E. Rivers, vice president; Lewis E. King, corresponding secretary; Arieus J. Croteau, recording secretary; Howard Brown, treasurer; Chas. L. Pozzini, president and Roland Fraser, member of the executive board.

Forest Selby, principal of Tech High School, Charlotte, is now president of North Carolina Vocational Association. George Coggin is permanent secretary-treasurer.

SALESMEN TRAINED WITH VISUAL AIDS

Training an army of 25,000 appliance salesmen was a General Electric reconversion problem. The Armed Services had proved the power of visual aids in training millions of men and G.E. had held 1,400 training meetings just prior to the war. From this available experience and knowledge an improved type of visual presentation was developed.

Slide film pictures with all their drama and interest are used, and an oral presentation is made, by an instructor who talks from a printed text while the pictures visualize or illustrate his story. A portable "pulpit" is equipped with clamps to hold the text and a hooded lamp which illuminates both text and speaker's face. Thus the speaker becomes a personality and audience participation, through questions during or after the pictures, is obtained naturally. Printed film texts are available to each person in the audience. They are well illustrated and are useful as permanent reference material.

—J. De Jen, General Electric Co., before the AVA Convention, Buffalo.

Have you...

an organized safety program in woodworking?

1. *Safe Work Practice in Woodworking* provides an organized course for individual or classroom use, that has been carefully correlated with hand and machine woodworking courses $0.60

a metallurgy text designed for your courses?

2. Published Sept. 1, the greatly enlarged 3rd edition of *Metallurgy* not only provides the material for a complete course, but is also an essential reference for any class concerned with the shaping, sizing or fabrication of metal $5.00

examined this practical professional text?

3. *Simplified Architectural Drawing* is designed to follow the standard vocational course in Mechanical Drawing. Presents the practical, professional methods of the draftsman $4.75

adopted a blueprint reading text?

4. Hundreds of schools are now using Blueprint Reading for the Building Trades.
Vol. I—Fundamentals simply presented $2.00
Vol. II—Application to the Trades 2.00

Tech Training

Be sure you are on our mailing list for a FREE copy of each issue of Tech Training. Devoted to Research and Training problems of Vocational, Industrial and Business Teachers, each issue will be loaded with timely articles by prominent vocational leaders. (Fill in and check coupon).

AMERICAN TECHNICAL SOCIETY
Drexel Ave., at 58th St., Dept. HS 263 Chicago 37

Send following texts on 30 days approval. I will either return the books or remit less the educational discount. (Circle the number of the book wanted) 1 2 3 4

Name_____

School_____

School Address_____

☐ Send each issue TECH TRAINING free.

When writing advertisers please mention *American Vocational Journal.*

PRACTICAL NEW TEXTS FOR CLASS USE

Teachers like these books because they are thorough, complete, and effective teaching tools. Students enjoy their simple, concise explanations and everyday applications.

MECHANICAL DRAWING
Nicholson

Published this month: The author's experience at the Ford Trade School ensures a practical, thorough, interesting text. The book gives students a complete groundwork in the principles of mechanical drawing, with emphasis on modern machine design. Unusual number of illustrations, fascinating problems, detailed instructions. Price to be announced.

ELEMENTS OF AUTOMOTIVE MECHANICS
Heitner, Shidle, and Bissell

The 1946 revision of this well-known basic text covers all new developments in the field. The book is largely self-teaching, and requires no previous technical training. Excellent illustrations; summarizing review questions at chapter ends. $2.25.

GENERAL METAL WORK
Grayshon

The 1946 edition includes all up-to-the-minute practices. New illustrations show exacty how the work is done. Practical hobby projects stimulate interest. This is a correlated course of elementary sheet metal and light machine work. Exceptionally easy to follow and to teach. $2.25.

INDUSTRIAL ELECTRICITY
Nadon and Gelmine

This book is outstanding because it is well within the range of students' abilities. It is noted for its applications to machines and strong section on controllers. $3.00.

We would be glad to know if you are planning to adopt texts in the subjects above, or in related vocational fields.

D. VAN NOSTRAND COMPANY, INC.
250 Fourth Avenue New York 3

CHARTS

Industrial Safety Charts. Series M, *Use Gas Welding and Cutting Equipment Safely;* Series O, *Use Hand Trucks Safely;* Series P, *The Safe Handling of Hammers.* Order from Superintendent of Documents, Washington, D. C. 5¢ per copy, $3.75 per 100.

FILMS

Marks of Merit. 16mm sound. Released to schools without charge through Modern Talking Picture Service, 9 Rockefeller Plaza, New York 20, N. Y.
Presents the historic origin and economic significance of trademarks and brands by which goods are identified.

You and Your Family. 16mm sound. Rental from Y.M.C.A. Motion Picture Bureau, 347 Madison Ave., New York 17, N. Y.
Helps young people and parents understand how they should feel and act toward one another in the everyday business of living.

Our Industrial Air Power. 16mm sound - color. Available without charge from Quincy Compressor Co., Quincy, Ill.
Depicts industrial uses of compressed air.

The Veteran Becomes a Farmer. 16mm sound. U. S. Office of Education.
An inexperienced veteran wants to become a farmer. The County Agent and several farmers advise him first to spend a year working on a farm. Film follows him through that year, showing why he decided to become a farmer.

Veterans and the Land. 16mm sound. U. S. Department of Agriculture.
Addressed directly to veterans. Shows advantages and drawbacks of farming; gives overview of different kinds of farming, what a farmer has to know, be able to do, etc., and where to go for advice.

Meat and Romance. 16mm sound. Free on loan through Castle Distributors Corp., 30 Rockefeller Plaza, New York 20, N. Y.
How to buy, cook, and carve meat, and the dietary values of meat.

Lessons in Grinding. 16mm sound Kodachrome series. Free on loan from Norton Co., Worcester 6, Mass.
Cutter Sharpening, time 14 min.; *The Cylindrical Grinder,* time, 20 min.; *The Surface Grinder,* time, 17 min.; *The Grinding Wheel, Its Care and Use,* time, 17 min.; *Grinding Carbide Tools,* time, 30 min.; *Grinding Wheel Markings,* time, 18 min.; *Grinding Wheel Safety,* time, 20 min.

Where to Get Visual Aids on Public Affairs. Published by Program Information Exchange, 41 Maiden Lane, New York 7, N. Y. Pp. 12, mimeo, 50¢.
A guide to displays, exhibits, maps, charts, posters, photographs, and paintings. Lists 106 private, governmental, and international organizations which provide exhibits, maps, charts, posters, photographs, paintings, etc.

Trees for Tomorrow. 16mm sound. Free on loan from Castle Distributors Corp., New York 20, N. Y.
Depicts forests as sources of wood

(Continued on page 40)

for BETTER GROOMING

Write for "EVERYDAY BEAUTY CULTURE"

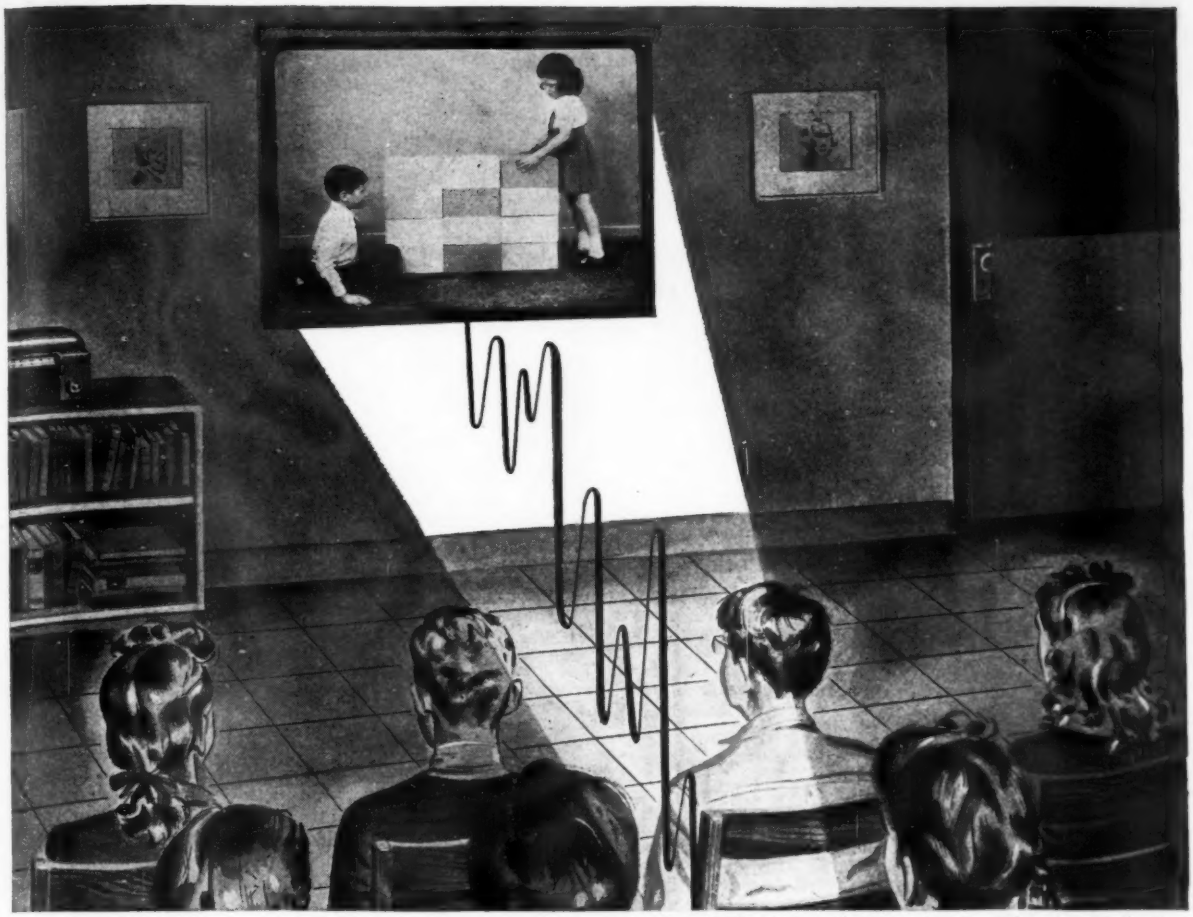
by LIVINGSTONE & MARONI

- **How to give beauty treatments.**
- **Principles of hair styling, make-up and manicuring.**

A new beauty textbook which prepares the girl planning to enter beauty service, and serves as a guide to every girl in her own personal grooming. Presents the necessary basic manipulative skills. Clear illustrations showing each movement of the hands in treating the hair, massaging, manicuring, etc. Tells what you should know how to do and what you should know. You will be impressed with the hundreds of large, clear easy-to-understand illustrations. Write for approval copy. $1.68.

McKnight & McKnight
BLOOMINGTON, ILL.

When writing advertisers please mention *American Vocational Journal.*



Scene from "What is Four?", Young America Films, Inc. Production.

SOUND FILMS

bring the whole world to your classroom

Model PG-201

WHEN scholastic studies can be looked at and listened to simultaneously something happens to students that increases the capacity of their minds for learning. Students learn more efficiently, more understandingly.

Sound motion pictures enable students to see and hear the lesson on the projection screen—causing concepts to grow and knowledge to be acquired more quickly and retained longer.

With an RCA 16 mm Sound Film Projector, you get the utmost advantages from sound films as a valuable teaching aid. The silvered pyrex reflector, large condenser lens and F 1.6 "coated" projector lens provide brilliant reproduction of black-and-white or full-color scenes in true photographic tones, in unequalled contrast and clarity. A powerful four-stage amplifier and a precision-engineered mechanical filter provide sound reproduction of narration, music or sound effect, with all the fidelity of the original.

Simple to operate, easy to maintain, the RCA Sound Film Projector assures you unfailing service in the classroom.

For complete information on RCA 16 mm Sound Film Projectors, write Educational Department, 7-I, RCA Victor Division, Camden, N. J.

EDUCATIONAL DEPARTMENT

RADIO CORPORATION of AMERICA

ENGINEERING PRODUCTS DEPARTMENT, CAMDEN, N.J.

In Canada: RCA VICTOR Company Limited, Montreal

When writing advertisers please mention *American Vocational Journal.*

Your best buy is a

DeVRY

3-PURPOSE PROJECTOR

Once more the incomparable DeVRY RS-ND30 *professional* 16mm. motion picture sound projector is available to all. Compact . . . simplified . . . sturdy . . . precision built, this modern teaching miracle now offers the latest electronic, optical and mechanical refinements.

The amazing model RS-ND30, with *separate* high-powered 30 watt amplifier and full-toned permanent magnet speaker, provides sound-on-film projection with theater quality performance. It's improved . . . different . . . in a class by itself.

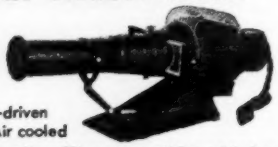
The DeVRY RS-ND30 model is a 3-purpose portable 16mm. sound-on-film projector that: (1) SAFELY projects both sound and silent films; (2) shows both black-and-white and color film without extra equipment; (3) and has separately housed 30 watt amplifier and sturdy permanent magnet speaker which afford Public Address facilities—indoors and out.

SLIDEFILM PROJECTORS

With Motor-Driven Forced-Air Cooling

USE IT THREE WAYS: (1) for single frame slide film (2) for double frame slide film and (3) 2 x 2 inch (35 mm) Kodachrome or black and white slides. This new DeVRY gives smooth, fast-focusing to hair-line sharpness. . . . Easily adjustable—instant framing. . . . Easily set up for horizontal or vertical pictures. 300 Watt Lamp.

DeVRY STEREOPTICONS



Motor-driven Forced-Air cooled

Heat-absorption filter gives slides added protection from heat damage. Precision optical system assures clarity and perfection of image. Shows standard 3¼" x 4" slides. Lamp capacity up to 1,000 watts.

FILMS EDUCATIONAL AND HOLLYWOOD FEATURES

FREE 136 Pg. FILM CATALOG

DeVRY Corporation, Dept. AV-C9
1111 Armitage Avenue
Chicago 14, Illinois

Gentlemen:

☐ Please send me your Projected Teaching Aid Equipment Literature.
☐ Free 136 page Film Catalog.

Name.....

School.....

Street.....

City.....Zone.....State.....

New Teaching Aids

(Continued from page 38)

and raw material for products from plastics to clothing. Shows methods of conservation, fire prevention, careful harvesting, and replanting.

BOOKS

General

Visual bibliographies to accompany text and reference books are being prepared by McGraw-Hill Book Co., Inc., New York. Correlated chapter by chapter, they are bound as part of the book.

The vocational and technical books for which visual bibliographies have been prepared, follow: Anderson: *Aircraft Layout and Detail Design;* Bridges: *Job Placement of the Physically Handicapped;* Chute: *Electronics in Industry;* Crouse: *Automotive Mechanics;* Fanning: *Our Oil Resources;* Frier & Holler: *Introduction to Industrial Chemistry;* Hinman: *Practical Design for Drilling, Milling, and Tapping Tools;* McCaslin: *Wood Pattern-making;* Peters & Degoe: *Raising Livestock;* Robinson: *Teachers Manual—Business Organization and Practice;* Turner: *Machine Tool Work;* Uren: *Oil Field Development;* Vale: *Aircraft Engine Mechanics Questions and Answers;* Wooley: *Farm Buildings.*

Teaching With Films. Fern and Robbins. The Bruce Publishing Co., Milwaukee, Wis. 1946. $1.75. Pp. 143.

When and why instructional films should be used, principles for selecting good films, information on how to operate film projection equipment, projection conditions, acoustics, ventilation, seating arrangements, maintenance of equipment, and techniques for teaching with instructional films.

Secondary Education in the South. Edited by W. Carson Ryan, J. Minor Gwynn, and Arnold K. King. The University of North Carolina Press, Chapel Hill, N. C. 1946. $3.00. Pp. 269.

A story of the use and development of the public high school in the South during the past 40 years. Contains a section on vocational education in the South.

Home Economics

Good Food and Nutrition. Edna P. Amidon, Dorothy E. Brodbury, and Vivian V. Drenckhahn. John Wiley and Sons, 440 Fourth Ave., New York 16, N. Y. 1946. $1.96.

Organized to solve the food problems of young people, particularly in relation to their families. Problems of marketing, cooking, meal planning, gardening, preserving, and the feeding of small children are studied, and solutions applied to every day life.

Industrial

Automobile Fundamentals, Chassis and Power Transmission. Ray F. Kuns and Tom C. Plumridge. American Technical Society. 1946. $4.25. Pp. 754.

The construction, care, and repair of automobile bodies, frames, chassis, clutches, transmissions, front-end suspension, springs, steering gears, brakes, etc. are thoroughly covered in this volume.

Pottery Production Processes. Industrial Publications, 59 East Van Buren St., Chicago 5, Ill. 1946. $2.00. Discount for 10 or more copies.

A comprehensive treatise on the manufacture of pottery, written in lay language, and usable by production men as well as amateurs. Well illustrated.

The How of the Helicopter. Alfred H. Stevens, Jr. Cornell Maritime Press, 241 West 23rd St., New York 11, N. Y. 1946. $2.00.

How helicopters were invented, how they fly, how they are flown, how they are used today and may be used tomorrow, all are explained in this book. Illustrated in two colors.

Plastics Mold Engineering. Dubois and Pribble. American Technical Society, Chicago, Ill., 1946. $7.00. Pp. 494.

Design of the important types of molds and their use, construction methods commonly employed, and specific molding processes are discussed.

Automobile Maintenance. Ray F. Kuns and Tom C. Plumridge. American Technical Society. 1946. $4.25. 754 pages.

This book covers service-station operation, motor analysis, and wiring diagrams. It includes data sheets for popular makes of American cars and a glossary of technical terms.

A "natural" for apprenticeship classes in electrical work

PRACTICAL ELECTRICAL MATHEMATICS

***By* W. E. Rasch**
Washburne Trade School, Chicago

A *related* math course that functions. Validated by electrical workers and contractors and proved through 15 years' use in training hundreds of electricians, this text is now available for you. Write to the nearest Heath office for an approval copy.

D. C. Heath & Company
180 Varick Street
New York City 14

Automobile Engines. Ray F. Kuns and Tom C. Plumridge. American Technical Society. 1946. $4.25. 735 pages.
A practical book on the construction, care, and repair of engines, carburetors, cooling systems, etc. A glossary of automobile terms is included.

Automobile Ignition and Electrical Equipment. Ray F. Kuns and Tom C. Plumridge. American Technical Society. 1946. $4.25. 528 pages.
Covers elementary principles, construction, care and repair of ignition systems, motors, generators, batteries, radios, and lighting. Includes glossary.

Wood Patternmaking. Herbert J. McCaslin. McGraw-Hill Book Co., Inc., 330 W. 42nd St., New York 18, N. Y. 1946. $2.60. Pp. 384. Fourth Edition.
This revised edition brings the material of the previous editions up to date, in line with recent developments, and adds new material, illustrations, and problems.

Office Occupations

Modern Practical Accounting — Elementary. E. A. Saliers. American Technical Society, Chicago, Ill. 1946. $3.50. Pp. 365.
The purpose of this book is to introduce the student to the basic principles which underlie all accounting procedures.

Guidance

Selecting and Operating a Business of Your Own. Gus Larson, Robert H. Johnson, and Walter M. Teller. Prentice-Hall, Inc., 70 Fifth Ave., New York 11, N. Y. 1946. $3.00 Pp. 346.
The book provides practical directions on how to become an owner and to make a success of a small store or business. A wide variety of different businesses are discussed.

Changing Your Work. J. Gustive White. Association Press, 347 Madison Ave., New York 17, N. Y. 1946. $2.50. Pp. 210.
The book is based upon real experiences of persons who have made both failures and successes in changing their work.

A Business of Your Own. Albert Faucher. The New Home Library, The Blakiston Co., Philadelphia, Pa. 1946. $1.00. Pp. 338.
Contains facts to consider before going into business.

PAPER COVERS

Axonometric Drawing. Free from R. Chassell Co., Inc., 110 W. 42nd St., New York 18, N. Y.
Explains theories of isometric and dimetric projection.

Evaluative Criteria for Vocational Industrial Schools and Classes. Free from Department of Industrial Education, Pennsylvania State College, State College, Pa.

Setting Up an Apprentice Program: A Guide to Employers in Training Veterans for the Skilled Trades. Also *National Bricklayers Apprenticeship Program Standards;* and *National Standards of Apprenticeship for the Craft of the Plastering Industry.* Apprentice Training Service, U. S. Department of Labor, Washington, D. C.

Record Keeping for Small Business. South-Western Publishing Co., 201 W. 4th St., Cincinnati 2, O. 1946. $1.20.
A complete, self-contained operational manual on keeping records.

Facts About the Printing Industry for Schools. American Type Founders, Department of Education, Elizabeth, N. J. Free.
Describes progress and importance of this industry, its need for skilled workers, opportunities offered, and charts showing its standing with other industries.

Work Experience in Secondary Education. National Child Labor Committee, 419 Fourth Ave., New York 16, N. Y.
Report of a study of school and work programs where secondary school students were released from school part time to work for wages. Does not include subsidized vocational programs.

Jobs and Small Businesses. Edward A. Kotite. Graphic Enterprises, 17 E. 42nd St., New York.
Answers such questions as where to get a job, qualifications, salary, advancement, capital needed to start a business, profits to be expected, problems, etc. Well illustrated with coded

(Continued on page 43)

Something Old, Something New...

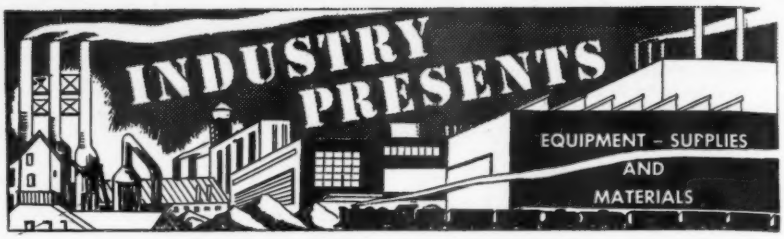
"Something New" — the delicacy of detail, the laciness of texture, revealed in this illustration of a bride, done in Higgins American India Ink by Mary Gibbs for "The Bride's Magazine."

"Something Old" — the traditional approval of Higgins American Drawing Inks by outstanding artists, illustrators and designers, who endorse Higgins Inks for their distinguished simplicity of line, their control and facility of use.

Your work, too, will benefit by the character and excellence of these fine Higgins Inks. Ask your dealer for Higgins American Drawing Inks. Modern techniques require them.

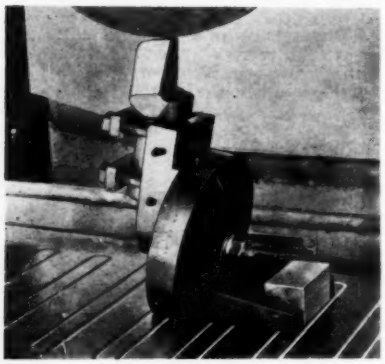
THE INTERNATIONAL STANDARD OF EXCELLENCE
SINCE 1880

HIGGINS INK CO., INC.
271 NINTH STREET, BROOKLYN 15, N. Y.



Mills Industries can now promise deliveries of Mills Sono-Vision Cabinet Projectors which contain projector, speaker, amplifier, screen, and all controles in one mobile cabinet. It requires no darkened room, no set-up time, no operator and works by push button. **1**

George Scherr announces an ALL-PURPOSE tool grinding fixture for precision grinding of lathe tools, screw machine form tools, shaper, planer,



milling machine, or any angle cutting tools. It is placed on the magnetic chuck of a surface grinder and is firmly held in place by the magnetic power of the chuck. **2**

Radar waves now can be created with a new lightweight portable device developed by General Electric. Called a microwave oscillator, the new unit is designed to enable instructors to demonstrate principles of electromagnetic radiations. **3**

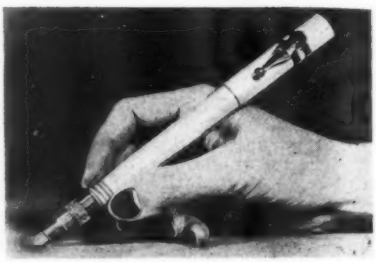
A three-point pipe gage for measuring pipe, electrical conduit, and electrical metallic tubing is available from the Three-Point Gage Co. The gage is so calibrated that when placed against a piece of pipe or conduit it immediately registers the exact size by which it is known to the trade, and not the outside diameter. The gage measures from ⅛" to 12" inclusive. **4**

American Handicrafts' 1946 catalog calls attention to craft supplies now available to schools: metals, tools, shop supplies, kilns, looms, plastics, art materials, and many others. **5**

Clover Manufacturing Co. has released its post-war catalog on abrasives. Available also are technical bulletins describing new techniques and new sanding machines developed during the war. **6**

American Photocopy Equipment Co. has a new booklet, *Streamline Your Copying with Photocopying,* which shows how to save time, money, and labor with a machine which copies written, printed, drawn, typed, or photographed materials. **7**

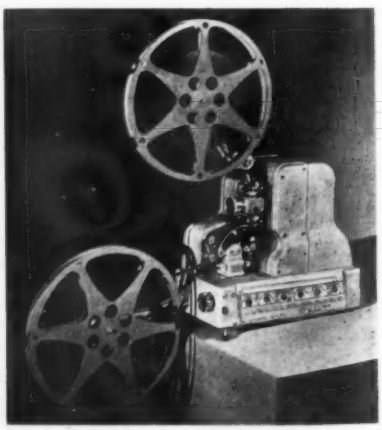
Cushman & Denison Mfg. Co. have produced a new Cado Flo-Master Fountnbrush, an all-purpose identifi-



cation marking and drawing instrument for use on any surface. It combines features of ink, paint, crayon. **8**

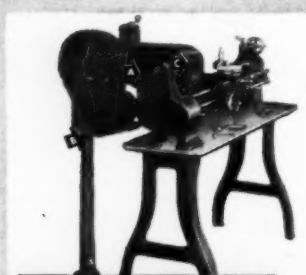
Kearney & Trecker tell how to keep up-to-date on metal cutting progress through their booklets, "Metal Cutting Research Data," "Right and Wrong in Milling Practice," "The Milling Machine and its Attachments," and "Methods of Cam Milling." The new catalogs, LSM-20, "Knee Type Milling Machines," and CA20, "Attachments and Accessories," also are out. **9**

Valette, Inc., announces a new 16mm sound film projector, Valette 16. Precision-line production has given it a streamlined exterior, a simple natural



feed, and all film handling contacts recessed so that neither picture nor sound touches the metal parts. **10**

Logan A NAME TO REMEMBER WHEN YOU THINK OF BETTER LATHES



WHERE FIVE RUBBER CUSHIONS ASSURE SMOOTH OPERATION IN LOGAN LATHES

A TWO RUBBER CUSHIONED BEARINGS, one at each end of the two hinge points connecting the countershaft and headstock.

B ONE RUBBER CUSHION between motor mounting base and pedestal.

C TWO RUBBER BUTTONS cushion the cone pulley guard.

RUBBER CUSHIONED COUNTERSHAFT

ABSORBS VIBRATION, GIVES LOGAN LATHES MAXIMUM SMOOTHNESS AND ACCURACY IN OPERATION

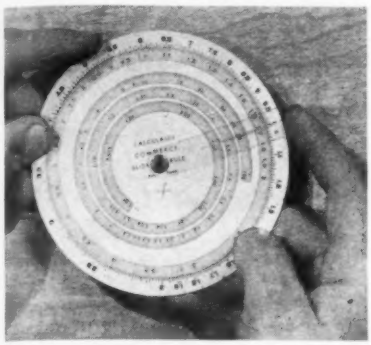
Rubber cushioning of the countershaft is one of the unique design features which help make Logan Lathes outstanding in smooth, accurate operation. At no point on the Logan Lathe is there a direct metal-to-metal contact between countershaft and headstock. At all three of the countershaft's main support points, the pedestal rod and the two hinge pins, rubber cushions effectively absorb motor vibration. The result is a maximum of smoothness in operation that is conducive to fine precision work. Write for the Logan Lathe catalog. K-3-M

Quick Change Gear Lathe

SPECIFICATIONS COMMON TO ALL LOGAN LATHES . . . swing over bed, 10½" . . . bed length, 43½" . . . size of hole through spindle, 25/32" . . . spindle nose diameter and threads per inch, 1½"–8 . . . 12 spindle speeds, 30 to 1450 rpm . . . motor, ½ hp, 1750 rpm . . . ball bearing spindle mounting . . . drum type reversing motor switch and cord . . . precision ground ways, 2 V-ways and 2 flat ways.

LOGAN ENGINEERING CO. CHICAGO 30, ILLINOIS

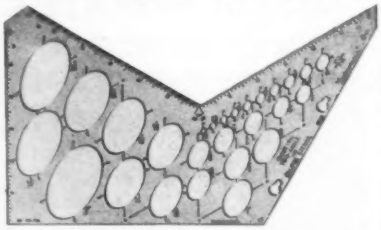
The Calculaide slide rule combines the precision of a 12-inch slide rule with pocket-size convenience. Only 4½ inches in diameter, this slide rule carries the usual C and D scales, plus a log-log scale ranging from 1.01 to



100. It is made from tough, non-warping, non-inflammable plastic. Directions are printed on the back. **11**

Radiant Screens is introducing a new slide-rule type Projection Screen Finder for users of opaque, movie, slide, and strip film projectors. It lists information on the correct screen model to use and the audience-handling capacity of a given screen, in addition to providing the solution of such problems as the correct focal length lens to use, correct screen size, correct distance from screen to projector. **12**

Instrumasters Industries, Inc., are producing a stencil for isometric drawing, a hatching stencil, and a floating



triangle, all made from clear, non-warping, non-inflammable plastic stock. **13**

The Lietz E-Z Hone, which sharpens evenly and slowly, is shaped to make the sharpening of ruling pens almost automatic. The curved and tapered groove cradles both regular and Swedish type pens and is an aid which simplifies pen sharpening. **14**

Mat cutting is simplified with the new X-ACTO mat and beveller-knife guide. Bevels can be cut at an exact 53° angle. It is designed like a T-square and can be held firmly against the table with the body leaving the hands free to hold the mat and guide the knife. **15**

Additional information about products mentioned in "Industry Presents" columns may be obtained by using the coupon on page 49, where please circle the number that corresponds to the one at the end of announcement in these columns.

New Teaching Aids

(Continued from page 41)

table to help beginner seeking employment; tabular analysis of several enterprises; life stories of outstanding leaders.

Wonders in Wood. Bruce Publishing Co., 540 N. Milwaukee St., Milwaukee, Wis. 1946. 75¢.
Puzzles and other interesting projects in wood.

Opportunities in Journalism, $1.00; *Opportunities in Public Relations,* $1.25; *Oportunities in Free Lance Writing,* $1.25; *Opportunities in Radio,* $1.50; *Oportunities in Acting,* $1.25;*Opportunities in Architecture,* $1.25. Vocational Guidance Manuals, Inc., 45 W. 45th St., New York 19, N. Y.

Facts About Child Health. U. S. Department of Labor. Superintendent of Documents, Washington, D. C. 10¢.
Thirteen major topics with substantiating statistics, good illustrations, and reading list.

Planning and Equipping School Lunchrooms. Misc. 3210, U. S. Office of Education.
Prepared in two sections: "Suggestions for Planning and Appraising School Lunchroom Layouts," and "Equipment Needs and Space Considerations for School Lunch Programs of Different Size."

Important new books for vocational training

Automotive Mechanics—*Crouse*

Covers all phases with a new, step-by-step approach. Latest approved practices. Exploded and sectional views of engine and car components. A correlated film bibliography. Text edition, $3.60

Workbook in Mechanical Drawing —*Coover*

Makes mechanical drawing really functional in the lives of students. Projects and problems are of general interest, suitable for the school shop or home workshop. In press.

Wood Patternmaking —*McCaslin*

NEW FOURTH EDITION

Brings all material up to date, taking account of recent developments, adding material, and increasing the number of illustrations. 64 pattern problems, a number new and advanced. $2.60

Raising Livestock —*Peters and Deyoe*

Practical, up-to-date information on the raising of farm animals, organized around the *activities* of livestock production. Latest practices. A list of motion pictures and film strips. Text edition, $2.60

Principles of Tool Engineering—*Bloom*

Presents systems of production, interchangeability, and dimensioning as they pertain to tool design, basic machine tools, the tool engineer's training, duties, etc. A list of correlated motion pictures. $2.40

Raising Turkeys, Ducks, Geese, Game Birds—*Jull*

New, timely information on all phases of raising and marketing turkeys, ducks, geese, guineas, pigeons, peafowl, quail, pheasants, and other upland game birds, and aquatic game birds. Organized around *activities.* In press.

Send for copies on approval

McGRAW-HILL BOOK CO., INC.

330 West 42nd Street **New York 18, N. Y.**

NEW Books

of wide interest and timeliness

"The Preparation and Use of VISUAL AIDS"

by Kenneth B. Haas and Harry Q. Packer.

These two experts in visual education tell WHERE to find, HOW to prepare and HOW to use Visual Aids in all types of educational and personnel training projects. Covers every type and method of effective visual instruction.

224 pages — Text List Price $3.00

★★★★

EDUCATING FOR INDUSTRY— thru APPRENTICESHIP

by William F. Patterson, Director, Apprentice Training Service, U. S. Department of Labor— and Marion H. Hedges, Director of Research, International Brotherhood of Electrical Workers.

Answering an insistent demand for a book which brings together material and information that will be of practical assistance in setting up programs of apprentice training, and bringing them to successful conclusion. Of especial interest to vocational schools.

229 pages — Text List Price $1.90

Send for Approval Copies

Prentice-Hall, Inc., Industrial Department
70 Fifth Avenue, New York

Please send me on 30-day approval basis:

☐ Preparation and Use of Visual Aids
☐ Educating for Industry thru Apprenticeship

Name_____

Title_____

Address_____

● New Jersey Working On State Plan Revision

New Jersey local directors of trade and industrial education will meet with members of the staff of the Vocational Division of the New Jersey Department of Education, October 9-12, to work on revision of the trade and industrial section of the State Plan for Vocational Education. Committee assignments will be made in advance to allow members to study the present Plan and make suggestions.

Supervisors from agriculture, home economics, and distributive education will meet at different periods during the year to develop needed changes in their sections of the Plan.

The "Old Timers," in the state vocational division, members who have had 20 years or more of service, paid special tribute to Dr. J. C. Wright with a photograph of the entire group.

● E. F. Riley Honored By North Dakota

E. H. Riley, for 25 years president of the North Dakota State School of Science, was honored at the annual alumni banquet this year for his quarter of a century of service. The school began operating in 1905, and for 15 years its trades work consisted of experimental work in trade and industrial education. After Mr. Riley's appointment it offered trade training, junior college work, and business subjects. During the war it was used by the U. S. Navy, and now enrolls many veterans.

● Model Planes Placed In the Smithsonian

The U. S. Office of Education has transferred to the Smithsonian Institution a set of 80 scale model planes made in the Model Aircraft Project, for display at the U. S. Office. Every state and territory is represented by at least one model plane, which will now serve as a record of progress in aviation and of the contribution of the nation's schools to aviation in World War II.

● Michigan, Oregon, and Hawaii Name Directors

Ralph C. Wenrich has been appointed assistant superintendent for vocational education for Michigan. He assumed his duties July 1, following a short period with the vocational education staff of the University of Michigan. Prior to that time he served four years in the Army with assignments as chief of the Pre-Induction Training Branch and director of reconditioning at Camp Carson Convalescent Hospital in Colorado where he held the rank of Lt. Col. Before that time he had been state adviser of trade and industrial education, Pennsylvania. He received the B.S. and M.S. degrees at Penn State.

Ralph C. Wenrich

In Oregon, O. I. Paulson has been elected state director to succeed O. D. Adams, who resigned to accept the position of assistant superintendent of schools in San Francisco. Mr. Paulson had been acting director since September, 1940, when Mr. Adams took leave of absence to enter the Navy. Previously he was assistant director and state supervisor of rehabilitation.

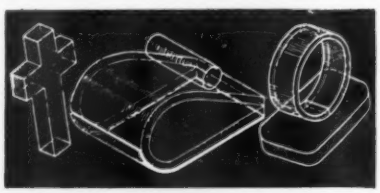
W. W. Beers, who has been acting director for Hawaii since August, 1945, was given permanent appointment this year.

● Missouri Recruiting Homemaking Teachers

Missouri has developed a plan for recruiting homemaking teachers, calling attention of all high school girl graduates to the opportunities in teaching. Kits of bulletins, books, references, etc. are loaned to teachers for career day programs or special reference. Names of interested girls are sent to the state supervisor who routes them to heads of home economics departments in teachers colleges and universities. Last year 48 teachers sent 118 names.

Delight Your Class

WITH PROJECTS IN



PLASTICS

How your students will enjoy working with plastics! Crystal-clear, easily carved, cut and shaped, plastics will enable them to produce finished products of true professional appearance, that will bring exclamations of admiration from friends and parents.

We can supply you with Plexiglas, Lucite, Bakelite, Tenite II, Lumarith, Lignolite, and other plastics in sheets, rods and tubes especially suited for the school workshop. Also available are project plans and complete fabricating information.

Send today for catalog, sample working drawings of six projects, and full details.

CARMEN-BRONSON CO.
165 East 3rd St., Dept. 9-W. Mt. Vernon, N.Y.

• Real Values from Home Mechanics

Values derived by pupils in home mechanics classes can best be appraised in terms of objectives.

Since home mechanics provides experiences which center around the home and community, these naturally have an important influence on personality growth. The child learns to appreciate and preserve home and community values—an important educational attribute. Also, home-community resources motivate learning.

There should be greater emphasis on consumer education as an important social and economic learning outcome. One half of our national income is spent on consumer goods, so schools have a definite responsibility in this area. The home mechanics experiences provide for this important socio-economic proficiency in living.

Home mechanics provides an exceedingly important media for creative expression. Every child should have an opportunity to express his inherent interests and talents, a democratic opportunity for learning and for individual differences. Home mechanics takes away the stigma of "mass education" and dignifies the individual and his particular needs.

The home mechanics laboratory arouses and develops aesthetic values, leading to desirable use of leisure time not only in adolescence but in adulthood. Fifty-six of the 168 hours each week are devoted to recreation by the American people, and schools have a responsibility for making a rich contribution to both the national economy and social proficiency through education for those hours.

Fifty years ago a committee of fifteen issued a pronouncement with respect to the "Cardinal Principles of Education." One of these was "worthy home membership." Home mechanics courses, through utilization of home and community resources, provide for appreciation and understanding of the contributions which all Americans have made, for better family life and citizenship.

Laboratory experience in home mechanics provides for transfer of training in mathematics, art, reading, oral expression, and composition. The learner appreciates the worth of a knowledge of proportion, color; the need to read carefully and follow directions; ability to organize such knowledge.

For tangible effects, in 17 schools in District Eight in Chicago, there are 3,278 boys and girls in home mechanics courses. An exceedingly high interest in the work, excellent pupil-teacher relations, and teacher-pupil planning are evident. There is fine provision for individual differences and capacity to learn. Pupils have access to well-selected units for experiences in groups or singly, and diversity of pupil interest is apparent.

Home mechanics courses, when well organized and functioning, provide the broad pupil experiences needed for social, intellectual, and ultimate vocational proficiency.—*Thaddeus J. Lubera, District Supt., Chicago Schools*

• Home Economics Goes on the Air

Realizing that many people still think home economics is restricted to cooking and sewing, the Pitt County, North Carolina, teachers planned and gave a series of radio programs dramatizing phases of their program.

Called "Home Economics on the Air," the programs were as follows: "Why Take Home Economics?" "A Foods Class in Action," which was planning a laboratory lesson; "The Future Homemakers of America," "The School and Community Cannery," "Home Experiences," "Home Projects," and "A Week-end Home Economics Cottage." Students and teachers wrote the scripts and gave the programs.

Among the best in the series was, "A Week-end Home Economics Cottage," a dramatization in which a group of students planned a week-end party.

Writing and giving radio programs was a new experience for some teachers as well as for students. It was an entirely new venture in public relations, and interest in home economics increased.—*Alice Strawn, Publicity Chairman, Pitt County Home Economics Teachers, North Carolina*

• Industrial Arts Teachers' Ranks Now Reinforced

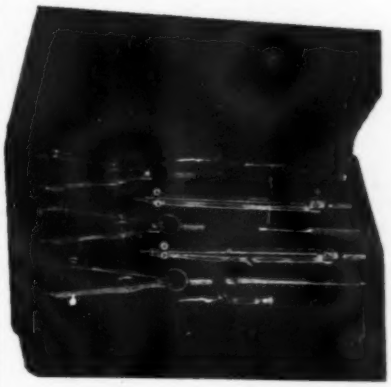
While many Industrial Arts teachers have been attracted permanently by high wages, important positions in industry, and as officers in the Army and Navy, many returned this fall to former jobs or new jobs in schools. Others have enrolled in teacher education institutions for refresher courses or to complete graduation requirements.

Shops which were closed for a considerable period of time now are reopening, but the supply of Industrial Arts teachers still is inadequate, and war emergency credentials are being extended in many cities.

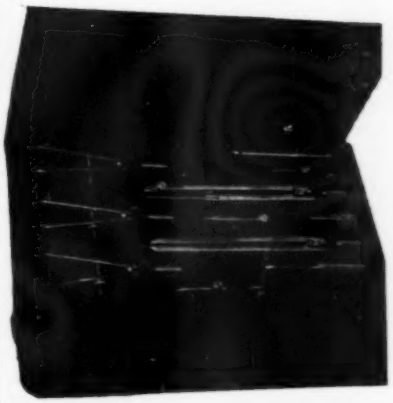
On the credit side, young men who would not otherwise have thought of teaching as a career are strong candidates for the teaching profession.

There are advantages in this situation for education. Men who have dropped out of the profession for important positions in industry and business will act as liaison men between public and public schools; will promote a better understanding of what the schools are trying to do. Men who have had their outlook enriched by experience in industry or in the services will have a better understanding of the seriousness of becoming a teacher, and a broader viewpoint of life in general.—*Emanuel E. Ericson, Santa Barbara College, University of California*

NEW!
"INSTRUMENTS DESIGNED BY DRAFTSMEN FOR DRAFTSMEN"



NO. 900 DRAWING SET
LIST PRICE $18.00



NO. 700 DRAWING SET
LIST PRICE $13.50

WRITE FOR CATALOG
LISTING
CURVES AND CURVE SETS
PROTRACTORS
TRIANGLES

PARK INSTRUMENT COMPANY
93 W. PALISADE AVE., ENGLEWOOD, N.J.

VISUAL EDUCATION DIRECTORY

MANUFACTURERS, PRODUCERS, DISTRIBUTORS

LEGEND: A—Films. B—Projectors and Accessories. C—Screens and Equipment.

THIS directory is for your convenience in locating products and services for training, and informational aids for films, screens, projectors, accessories, storage cabinets, etc.

American Optical Co.——B
Box A, Buffalo 15, N. Y.
Ampro Corporation——B
2839 N. Western Ave., Chicago 18, Ill.
Astor Pictures Corporation——A
130 W. 46th St., New York 19, N. Y.
Atlas Educational Film Co.——A
1111 S. Boulevard, Oak Park, Ill.
Audio Production, Inc.——B
630 9th Ave., New York, N. Y.

Bailey Film Service——A
P. O. Box 2528, Hollywood 28, Cal.
Ballard-Bowman Films, Inc.——A
360 N. Michigan Ave., Chicago 1, Ill.
Bausch & Lomb Optical Co.——B
Rochester 2, N. Y.
Bell & Howell Co.——A-B
1815 Larchmont Ave., Chicago 13, Ill.

Smooth, steady power! Handee works on metal, alloy, plastic, wood, horn, bone, glass, etc.; performs precision operations not possible with any other portable tool! Easy to handle, weighs only 12 oz. AC or DC. 25,000 r.p.m.

USE THE RIGHT ACCESSORIES! Choose them from the most complete line—more than 300 made right in the Handee plant.

COMPACT SCHOOL SET—A good start! Handee and 45 most practical accessories packed in steel carrying case. Complete, postpaid, $27.50. *Handee, with 7 accessories, $20.50.*

ORDER NOW SATISFACTION GUARANTEED

FREE! NEW 52-PAGE MANUAL

CHICAGO WHEEL & MFG. CO.

1101 W. MONROE ST., DEPT. AJ, CHICAGO 7, Ill.

For churches, schools, assemblies, camps and lectures

MAKE YOUR OWN LANTERN SLIDES

SLIDECRAFT

To illustrate ideas, devices, subject matter and life situations by means of the stereopticon and SLIDECRAFT

SLIDECRAFT Co.
257 AUDLEY ST.
SOUTH ORANGE, N. J.

Box of 25 wax of 4 (2¾ x 2¾ size) or 100 small $3.00 with one box Slidfx Crayons $3.50
Box of 100 Slidecraft @ $6.00 with one box Slidecraft Crayons $6.50

APTITUDE TESTS

Specific Trade Tests — Standardized

Discover your students' talents, aptitudes, abilities and limitations.

Aptitude Testing Laboratories

130 W. 42nd St. New York 18, N. Y.

Beseler, Chas., Co.——B
243 E. 23rd St., New York 10, N. Y.
Brandon Films, Inc.——A
1600 Broadway, New York 19, N. Y.
Bray Studios, Inc.——B
729 Seventh Ave., New York 19, N. Y.
British Information Services——A
30 Rockefeller Plaza, New York 20, N. Y.
Brooking Tatum——A
Kelseyville, Cal.
Burton Holmes Films, Inc.——A
7510 N. Ashland Ave., Chicago 26, Ill.
Byron——A
1712 Connecticut Ave., N.W., Washington 9, D.C.

Calhoun Co.——B
101 Marietta St., N.W., Atlanta 3, Ga.
Caravel Films, Inc.——A
730 Fifth Ave., New York, N. Y.
Castle Films, Inc.——A
30 Rockefeller Plaza, New York 20, N. Y.
Catholic Movies——A
220 W. 42nd St., New York 18, N. Y.
Community Movies——A
1426 W. Washington St., Charleston 2, W. Va.
Coronet Instructional Films——A
919 N. Michigan Ave., Chicago 11, Ill.
Curriculum Films, Inc.——A
RKO Building, Radio City, New York 20, N. Y.

Da-Lite Screen Co., Inc.——C
2723 N. Pulaski Ave., Chicago 39, Ill.
DeVry Corporation——A-B-C
1111 Armitage Ave., Chicago 14, Ill.

Eastman Kodak Stores, Inc.——A-B
Kodascope Libraries
356 Madison Ave., New York 17, N. Y.
Educational Projection Service——A
6600 Lehigh Ave., Chicago 30, Ill.
Encyclopedia Britannica Films, Inc.——A
20 N. Wacker Drive, Chicago 6, Ill.

Films, Inc.——A
330 W. 42nd St., New York 18, N. Y.
Films of the Nations, Inc.——A
18 W. 55th St., New York 19, N. Y.
Florez, Inc.——A
815 Bates St., Detroit, Mich.
Fryan Film Service——A
Film Building, Cleveland, Ohio

Gallagher Film Service——A
123 S. Washington, Green Bay, Wis.
General Electric Co.——C
Schenectady, N. Y.
Golde Manufacturing Co.——B
1220 W. Madison St., Chicago 7, Ill.
Graphic Films, Inc.——A
1108 Lillian Way, Hollywood 38, Calif.

Hirsch & Kaye——B-C
239 Grant Ave., San Francisco 8, Cal.
Hoffberg Productions, Inc.——A
620 Ninth Ave., New York, N. Y.
Holmes Projector Co.——B
1813 Orchard St., Chicago 14, Ill.

Ideal Pictures Corp.——A
28 E. 8th St., Chicago 5, Ill.
International Film Bureau——A
84 E. Randolph St., Chicago 1, Ill.

Jam Handy Organization——A
1775 Broadway, New York 19, N. Y.

Keystone View Co.——A-B
Meadville, Pa.
Kime Kolor Pictures——A
1761 Sonoma Dr., Altadena, Cal.
Klein & Goodman——A
18 S. 10th St., Philadelphia, Pa.
Knowledge Builders Classroom Films——A
625 Madison Ave., New York 22, N. Y.
Kunz Motion Picture Service——A
1319 Vine St., Philadelphia 7, Pa.

Lewis Film Service——A-B
1145 N. Market St., Wichita 5, Kansas
Loucks & Norling Studios——A
245 W. 55th St., New York, N. Y.

Magnavox Illustravox Division——B
Fort Wayne 4, Ind.
Mills Industries, Inc.——B
4100 Fullerton Ave., Chicago 39, Ill.
Mode-Art Pictures, Inc.——A
1022 Forbes St., Pittsburgh, Pa.
Mogull's, Inc.——A-B
68 W. 48th St., New York 19, N. Y.
Movie-Mite Corp.——B
1103 E. 15th St., Kansas City 6, Mo.
Mundy & Collins——A
814 W. 8th St., Los Angeles 14, Cal.

National Film Service——A
14 Glenwood Ave., Raleigh, N. C.
National Educational Films, Inc.——A
165 W. 46th St., New York 19, N. Y.
National Industries, Inc.——B
2628-58 N. Pulaski Rd., Chicago 39, Ill.
Neumade Products Corp.——C
427 W. 42nd St., New York, N. Y.

Official Films, Inc.——A
25 W. 45th St., New York 19, N. Y.
Optron, Inc.——B
223 W. Erie St., Chicago 10, Ill.

Pathescope Company of America, Inc.——A-B-C
580 Fifth Ave., New York 19, N. Y.
Philip Photo Visual Service——A
1954 Pasadena Ave., Long Beach, Cal.
Pictorial Films, Inc.——A
RKO Building, Radio City 20, N. Y.
Popular Science Publishing Co.——A-B-C
353 Fourth Ave., New York 10, N. Y.
Post Pictures Corporation——A
723 Seventh Ave., New York 19, N. Y.
Princeton Film Center——A
55 Mountain Ave., Princeton, N. J.

Radiant Lamp Corp.——B
300 Jelliff Ave., Newark 8, N. J.
Radiant Manufacturing Co.——C
1194 W. Superior St., Chicago 22, Ill.
Radio Corporation of America——B
Educational Dept., Camden, N. J.
Radio-Mat Slide Co., Inc.——A
222 Oakridge Blvd., Daytona Beach, Fla.
Raike Co.——B
829 S. Flower St., Los Angeles 14, Cal.
Ray-Bell Films, Inc.——A
2269 Ford Parkway, St. Paul 1, Minn.
RCM Productions, Inc.——A
5255 Clinton St., Hollywood 4, Cal.
Rockett Films——A
6063 Sunset Blvd., Hollywood 28, Cal.
Roush, Leslie, Productions, Inc.——A
119 W. 57th St., New York 19, N. Y.
Ryan Visual Aids Service——B
409 Harrison St., Davenport, Ia.

Sarra, Inc.——A
200 E. 56th St., New York, N. Y.
Shadow Art Studio——A
1036 Chorro St., San Luis Obispo, Cal.
Simmel-Meservey——A
321 So. Beverly Drive, Beverly Hills, Cal.
Slidecraft Company——A
257 Audley St., South Orange, N. J.
Society for Visual Education——A-C
100 E. Ohio St., Chicago 11, Ill.
SOS Cinema Supply Corp.——B
449 W. 42nd St., New York 18, N. Y.
Sound Masters, Inc.——A
165 W. 46th St., New York 19, N. Y.
Southern Visual Films——A
686-9 Shrine Bldg., Memphis 2, Tenn.
Stillfilm, Inc.——A-B-C
8443 Melrose Ave., Hollywood, Cal.
Strickland Film Co.——A
141 Walton St., N.W., Atlanta 3, Ga.
Swank's Motion Pictures——A
620 N. Skinker Blvd., St. Louis, Mo.

Teaching Aids Exchange——A
Box 1127, Modesto, Cal.
Transfilm, Inc.——A
35 W. 45th St., New York 19, N. Y.

United Specialists, Inc.——A
150 E. 35th St., New York 16, N. Y.
Universal Pictures Co., Inc.——A
Rockefeller Center, New York 20, N. Y.

Valette, Inc.——B
1001 E. 87th St., Chicago, Ill.
Victor Animatograph Corp.——B
Davenport, Iowa
Visual Education, Inc.——B
12th at Lamar, Austin, Tex.
Visual Sciences——A
Suffern, N. Y.
Vocational Guidance Films, Inc.——A
2718 Beaver Ave., Des Moines, Ia.

Western Colorfilms——A
3734 N. E. Chico St., Portland 13, Ore.
Wilding Picture Sales Corp.——A
385 Madison Ave., New York City, N. Y.
Williams, Brown & Earle, Inc.——A
918 Chestnut St., Philadelphia, Pa.

Young America Films, Inc.——A
18 E. 41st St., New York 17, N. Y.
Y.M.C.A. Motion Picture Bureau——A
347 Madison Ave., New York 17, N. Y.

Art Zeiller Projectors——A-B
868 Broad St., Newark, N. J.

Rural School Charter Day

By CARSIE HAMMONDS

Contributing Editor for Agriculture American Vocational Journal

RURAL SCHOOL CHARTER DAY is October 4, the second anniversary of the first White House Conference on Rural Education.

Charter Day is being established as an annual event so that communities everywhere may set aside one day each year for special consideration of the problems of rural education. Teachers of vocational agriculture and teachers of home economics should participate in formulating and supporting the program for this day. Here is an opportunity, and perhaps a need, for leadership. Make use of all groups and persons interested in rural education.

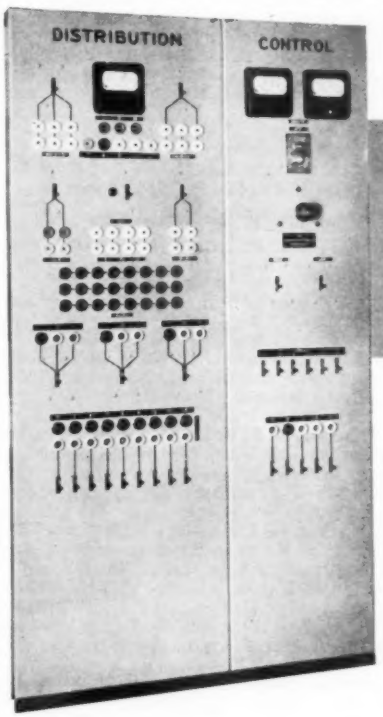
Much of the significance of the White House Conference lay in its bringing together school and non-school leaders to consider the educational well-being of rural children and youth. In every rural community local school and community leaders need to consider the achievements of their schools and plan ways in which they can help to improve rural education. It makes a difference to all people whether rural people are good producers, have good incomes, maintain a good standard of living, or whether the opposite is true.

It is suggested that this year's observance of RURAL SCHOOL CHARTER DAY be devoted to consideration of the kind of education wanted and needed, and what must be done to achieve it. Every school serving rural people should hold a community meeting where the attention of the entire community can be focused on the rights of rural children as set forth in *A Charter of Education for Rural Children.* Copies of the Charter, suitable for framing, are available from the Department of Rural Education, NEA, 1201 16th St., N.W., Washington 6, D.C. Up to ten copies will be sent to any county superintendent free. The Charter sets forth the rights of every rural child.

Sound in Moving Pictures Opened New Vocations

"THE quickest industrial revolution that has ever taken place" was the transition from silent to sound motion pictures. Use of sound opened the entire field of audio-visual education, establishing the motion picture as a cultural, scientific, and educational force in American life. The technical developments that led to the use of sound in motion pictures provided a new range of vocational opportunities and established talking pictures as an important factor in vocational information, in occupational training, in public service, and in international relations. Today the industry utilizes the services of approximately 250,000 people.

The twentieth anniversary of talking pictures was commemorated in August by the pioneers who contributed significantly to its development: Warner Bros. Pictures; the Bell System including American Telephone and Telegraph Co.; the Western Electric Co., and the Bell Telephone Laboratories; RCA Victor Corp.; Thomas A. Edison, Inc.; Eastman Kodak Co.; and the Society of Motion Picture Engineers.



TAKE IT FROM HERE!

● Yes, that's what you do when power supplies are distributed and controlled by a Standard Electric Time Company panel system.

Laboratory panels for electrical shops in high or trade schools and colleges perform an important function in any vocational or manual arts training program. This is especially true because throughout industry similar Standard panels are in use for laboratory and testing operations. Thus there is a definite carryover value of school shop training into actual industrial practice later.

Every Standard panel is designed and built after a study of individual needs and circumstances — a custom-tailored job from start to finish.

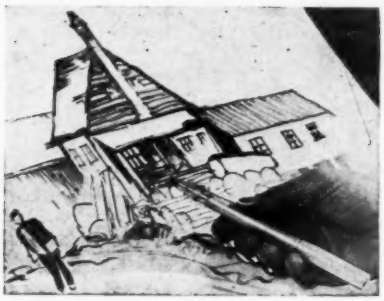
We shall gladly have a nearby field man call on you if you will but write us mentioning this publication. 37

THE STANDARD ELECTRIC TIME CO., SPRINGFIELD 2, MASS.
Founded 1884

When writing advertisers please mention *American Vocational Journal.*

See What You Can Do With "CADO"

FLO-MASTER



A NEW pocket tool for sketching, layout, lettering, inking-in that will challenge your imagination to develop new techniques. Easy to use, fast, effortless. Fine, medium or broad lines with the same nib. Clean, leakproof, sweatproof. All aluminum. FLO-DRI Inks in black and colors. Ask your dealer for FLO-MASTER or write us for circular and details.

CUSHMAN & DENISON MFG. CO.
135 West 23rd St. New York 11, N. Y.

TO HELP YOU PLAN SHOP WORK

80 pages of thought starters

A valuable reference for every school shop. Contains a complete list of all materials and tools for

METAL CRAFT LEATHER CRAFT
WOOD CARVING PLASTICS

and 40 other Arts & Crafts

USE THIS COUPON

American Handicrafts co
INC.
45 S. Harrison St., East Orange, N. J.
915 S. Grand Ave., Los Angeles, Cal.

Enclosed find 25c. Send me your latest catalog. I understand the 25c is to be refunded on my first order.

Name _____
School _____
Street _____
City _____ Zone _____ State _____

who's who

Bishop Brown, director of the Research Bureau for Retail Training, University of Pittsburgh, has been elected to honorary membership in Eta Mu Pi fraternity.

Frank E. Wimberly, state director of vocational education, New Mexico, has been elected to the national board of trustees of the FFA Foundation as western region representative.

William C. Ash, director of vocational teacher education, School of Education, University of Pennsylvania, retired as Professor Emeritus in June. He received a citation.

Sam R. Glenn, formerly war production training supervisor in Idaho has returned from the Navy and has been appointed assistant state supervisor of trade and industrial training.

O. H. Beaty, Topeka, who has been serving as acting supervisor of trade and industrial education for Kansas, has been appointed state supervisor.

Marlin Schrader, formerly educational statistician in the department of public instruction, has been appointed state supervisor of occupational information and guidance for Kansas.

Albert Jochen has been appointed director of the Middlesex County Vocational Schools, New Jersey.

Frederick E. Searle, educational advisor for all Ford Motor Co. schools, retired July 1, after a career of more than half a century as an educator.

Warren G. Meyer has returned from the U. S. Navy to his former position as state supervisor of distributive education in Kansas. George J. Frey, who also was on leave with the Armed Forces, has returned as a staff member in research and information.

New appointments to the state personnel in vocational education in Kentucky are Stanley Wall as instructor in Teacher Training, University of Kentucky; M. M. Botto and W. C. Montgomery as district supervisors of agricultural education; E. E. Ball, Chester F. Esham, John W. Koon, B. G. Moore, and S. S. Wilson as assistant supervisors of agricultural education; and Miss Jane Melton as assistant supervisor of home economics.

Will C. Mathews, released from the Navy, has returned to Oakland, Cal., as supervisor of industrial arts.

Lynne C. Monroe has returned to Santa Barbara College, University of California, as Associate Professor of Industrial Education.

Marion Grosse, director of industrial education, Fresno State College, Cal., has returned after spending some time on leave with the State Department of Education and later with the U. S. Office of Education.

Visual Aids May Replace Instructors for Retailers

VISUAL training films as substitutes for instructors, to help the one and one-half million small, independent retailers in training their salesmen, have been recommended by the Small Business Advisory Committee of the U.S. Department of Commerce.

As proposed by the committee, such a course of training films would present the basic principles underlying customer service and would give detailed instruction in the most effective methods of selling various types of merchandise. The films would be produced with the active participation of successful retailers to assure practical and effective on-the-job training.

IN TRIBUTE TO

William J. Murray, director of the Middlesex County Vocational Schools, New Jersey died after a long illness. He had been active in vocational education in New Jersey for 20 years, serving as guidance and placement officer, assistant director, and later director of the Middlesex Vocational Schools.

"OLIVER" SPINNING LATHE

Spins heavy metals smoothly, easily. Has sturdy bed, extra large bearings. Live tail center. Variable speed motor-driven headstock. Write for folder.

Oliver Machinery Co., Grand Rapids 2, Mich.

WE SPECIALIZE IN REBUILT MACHINE TOOLS FOR VOCATIONAL SCHOOLS
1000 Machines In Stock—Nation-Wide Distribution
Winner of Army-Navy "E" with Four Stars for Excellence
Send us your inquiries
BOTWINIK BROTHERS, INC.
33 Welton Street New Haven 9, Connecticut

MONEY IN PLASTICS!
LUCITE PLASTIC HOBBY KIT
Two pounds Lucite Material, Coloring Dye, Cement, Instructions. Send $2.50 to
PLASTIC SPECIALTY CO.,
(Dept. T) 192 Lexington Ave., N. Y. 16
Write for special school offer
FULL LINE OF PLASTIC MATERIALS

PERSONALITY TEST
YOUR strong and weak qualities revealed; also traits and characteristics
Complete Test and Report with helpful suggestions ..... ONLY $1.00
Send to:
NATIONAL TESTING SERVICE
25 Elliott Pl. (V) New York 52, N. Y.

A V A
PUBLICATIONS

Research Bulletin No. 1 — Occupational Adjustments of Vocational School Graduates. 1940. Pp. 132. Price 10 cents each; 10 or more, 5 cents each.

SURVEY FORMS for use in making local or area studies of graduates and former students of industrial, home economics, or agricultural education schools or departments; useful to occupational guidance, training, and placement programs. 1940. Pp. 4 ea. Prices: 10 copies, 15 cents; 100 copies, $1.05; 1,000 copies, $8.25.

Research Bulletin No. 2—A Study of Industrial Teacher Education at the Graduate Level. 1941. Pp. 42. Price, 10 cents each; 10 or more, 5 cents each.

An Enlarged Program of Vocational Education With Special Reference to Larger Administrative Units. 1943. Pp. 52. Price, 40 cents each; 10 or more, 35 cents each.

Improving Instruction in Industrial Arts. 1946. Price, 25 cents each; 10 or more, 20 cents each.

State Supervision of Industrial Arts Education. 1946. Free.

America's Vocational Schools. 1945. Pp. 56. Prices: single copies, 20 cents each; 100 or more, 15 cents per copy; 1,000 or more, 13 cents per copy.

The Carry-Over Into Homes of the Teaching of Family Living to In-School and Out-of-School Youth. 1943. Pp. 17. Prices: 1 to 9 copies, 20 cents each; 10 to 99 copies, 15 cents each; 100 or more copies, 9 cents each.

Evaluative Criteria for Vocational Education in Agriculture. 1942. (Revised). Pp. 75. Prices: 20 cents each; 10 or more copies, 15 cents each.

Manual of Directions for Use with "Evaluative Criteria for Vocational Education in Agriculture, 1942 Revision." 1943. Pp. 15. Prices: 1 to 9 copies, 10 cents each; 10 to 99 copies, 9 cents each; 100 or more copies, 8 cents each.

THE AMERICAN VOCATIONAL JOURNAL

Monthly except July and August. $2.00 subscription price to colleges, universities, libraries, business firms, and interested lay persons. Free to members of American Vocational Assn., Inc.

SERVICE LEAFLETS
(*Free*)

Area Vocational Schools—the Enlargement of Opportunities for Vocational Education

AVA—A Service Organization
AVA—Agricultural Education Section
AVA—Trade and Industrial Education
AVA—Home Economics Section
AVA—Industrial Arts Section
AVA—Vocational Guidance Section

Send orders for publications, *American Vocational Journal* subscriptions, and requests for information to:

AMERICAN VOCATIONAL ASSOCIATION, INC.
1010 Vermont Ave. Washington 5, D. C.
Make all checks payable to the American Vocational Association, Inc.

Products and Services Guide

Detailed facts about many new teaching aids and school supplies announced by advertisers may be obtained by encircling the numbers opposite materials described in this index and using coupon below. Requests will receive prompt attention.

Page

16. Illustrated booklets on aluminum and its uses. **Aluminum Company of America**....2d cover
17. Wall charts reveal know-how of air transportation. **Air-Age Education Research**..... 31
18. 80 pages of thought-starters, lists of materials, tools for 44 arts and crafts. **American Handicrafts Co.** 48
19. Send for free copies of **Tech Training. American Technical Society** 37
20. Discover students' talents, aptitudes, abilities, and limitations. **Aptitude Testing Laboratories**. 46
21. Free catalog of low rental and free motion pictures. **Association Films** 30
22. Information on rebuilt machine tools. **Botwinik Brothers, Inc.**.. 48
23. Free catalog and sample drawings for six plastic projects. **Carmen Bronson** 44
24. Handee tool of 1,001 uses. Send for free new 64 page catalog. **Chicago Wheel and Mfg. Co.**.. 46
25. Information on a new pocket tool for lettering, etc. **Cushman & Denison Mfg. Co.** 48
26. Free 44 page book, **How to Plan a School Workshop** and catalog. **Delta Mfg. Division of Rockwell Mfg. Co.** 29
27. Free film catalog and teaching aid literature. **DeVry Corp.** ... 40
28. Information on guidance in two rewarding fields. **E. P. Dutton & Co.** 35
29. Information on filmatic slide and film strip projector. **Golde Mfg. Co.** 32
30. Information on practical text of electrical mathematics. **D. C. Heath & Co.** 40
31. Many purpose inks for the vocational field. **Higgins Ink Co.**. 41
32. Free catalog of lathes for all shops. **Logan Engineering Co.** . 42
33. Information on texts and references for vocational and industrial arts courses. **Macmillan**.. 28
34. Approval copies of new books for vocational and industrial arts. **McGraw-Hill Book Co.** .. 43

Page

35. Approval copy of new text for better grooming. **McKnight & McKnight** 38
36. A new and practical book for electric motor repair; radio physics and radio servicing texts. **Murray Hill Books, Inc.**. 36
37. Inexpensive personality tests. **National Testing Service**..... 48
38. Free folder on Oliver spinning lathes. **Oliver Machinery Co.** .. 48
39. Free catalog of new drafting instruments. **Park Instrument Co.** 45
40. Special offer on full line of plastic materials. **Plastic Specialty Co.** 48
41. Free information on books for vocational teachers. **Prentice-Hall, Inc.** 44
42. Free booklet, Secrets of Good Projection. **Radiant Manufacturing Co.** 34
43. Information on RCA 16mm sound film projectors. **Radio Corporation of America**..... 39
44. Free information on how to make lantern slides. **Slidecraft Co.** 46
45. Free books, wall charts, films, etc. **South Bend Lathe Works**.. 3
46. Information on electrical equipment for vocational and technical schools. **Standard Electric Time Co.** 47
47. Facts for vocational agriculture and home economics teachers and administrators. On special problems write **Swift's Research Department** 26-27
48. Practical new texts for vocational classes. **D. Van Nostrand** 38
49. Free information and demonstration of Victor 16mm projector. **Victor Animatograph Corp.** .....4th cover
50. Information on 30 separate films for teachers and counselors. **Vocational Guidance Films.** 32
51. Information about electrical testing and service equipment. **Joseph Weidenhoff, Inc.** 3rd cover
52. Knives for every school use. Sample offer, catalog, free booklets. **X-Acto Crescent Products Co., Inc.** 4

American Vocational Journal
220 East 42nd Street, New York 17, N. Y.

Gentlemen:

Please send me information offered in the "Industry Presents" columns (pp. 42, 43) and the AVJ Advertisements I have encircled:

1	2	3	4	5	6	7	8	9	10	11	12	13
14	15	16	17	18	19	20	21	22	23	24	25	26
27	28	29	30	31	32	33	34	35	36	37	38	39
40	41	42	43	44	45	46	47	48	49	50	51	52

Also information on _____

NAME _____ TITLE _____

SCHOOL _____ CITY _____ STATE _____ S46

COLLEGES and universities operate on a state or regional basis and with the help of Federal funds. "Dual systems of education," "duplication of effort," and "danger of Federal control" are not bugbears that impede their growth or service, in spite of the geographical area basis on which they operate or their utilization of Federal grants. But when similar advantages are proposed for youth who will not attend institutions of higher education, and through identical means (that is, area vocational schools supported in part by Federal funds) these are the horrible dangers advanced to prevent such development.

The vocational bill S619, sponsored by the AVA, was passed by Congress in the form of an amended George-Deen Act. The section dealing with area vocational schools has been deleted. The change is not a catastrophe, however. The only losses through elimination of this section are the added funds, money for transportation of students, and funds earmarked especially for the operation of area vocational schools.

It always has been possible to establish area vocational schools, as far as Federal vocational acts are concerned, since the schools are a state and local responsibility. Federal vocational funds have been used for years to subsidize vocational programs which were operating, in fact, as area schools. We should not assume that area vocational schools have received a setback or that development is at a standstill because of the lack of specific mention in this bill. Rather, this should be accepted as a challenge to expand present vocational schools and programs and to establish new schools in a way that will meet the objectives and eliminate the objections.

The word "area" never was intended to mean a new or peculiar type of vocational school or program; it was used to designate, in an understandable way, a school that could meet vocational training needs of youth and adults in an economical manner, without the handicaps of district, county, or city boundry lines within a state; a school that establishes areas of service according to occupational needs and geographical or population conditions.

Colleges and universities in this way serve the special groups who have the necessary "pass key" to enter and pursue the vocational training of their choice. Why should this plan and philosophy be restricted to the institutions of higher learning and the people who can satisfy their entrance requirements and pay the price? Why can we not have a system of secondary schools that affords the same opportunities for those who (for whatever reson) are not going to attend the area collegiate institution?

Much of the opposition to area vocational schools comes from college and university leaders who fear their enrollments will drop, or that they may lose control of the secondary school curriculum, if young people can obtain adequate occupational preparation nearer home and at less cost. Other opposition comes from secondary school administrators, both state and local, who traditionally have been allied with them. They dread both being jarred from their academic swivel chairs, and the possible consequence of failing to go down the line with their leaders. There also is political opposition, some traceable to the influence of these educational groups, some to local office holders.

Vocational educators never have advocated or desired two systems of schools when insisting upon a program that will be truly democratic, meeting the training needs of the masses as well as the potential professional workers. They have tried for years to get those in control of public education, politically and otherwise, to do something about the inadequate opportunities for preparation available to those who enter agriculture, trades and industries, distribution, and commerce. If, as the opponents of adequate vocational education charge, this constitutes a second system of education, let's have another system! Not a second system, but an "adrenalized" one that will prepare all of our young people and adults for intelligent citizenship—for occupational as well as academic and cultural adequacy.

As the vocational bill becomes law, the old George-Deen funds are more than doubled. These funds can be used to extend occupational training opportunities to youths and adults in every nook and corner of every state. Vocational schools and classes will be able to expand and do a better job. Nothing prevents expansion on an area basis except local lack of understanding or active local opposition. In many states vocational educators have worked with their state educational associations and state legislatures to obtain laws that have expedited area schools. Establishment of such schools does not depend upon the passage of any Federal act nor, necessarily, upon new state legislation. Any group of school administrators can unite to provide an adequate vocational program as an integral part of the total secondary education plan.

Passage of the vocational bill does help, but Federal funds alone will not be sufficient to do this job. More money will be needed and local school administrators, state associations, and the vocational group should educate state legislators to the need.

It must never be forgotten that the greatest resourse of any nation is the skill of its workers. Democracy, as we want it, can be perpetuated only if each individual has an opportunity to develop to the full extent of his capabilities.

Do we have democracy in our educational system today?

What do you think?

George H. Fern

Note: Material presented in this column represents the opinions and viewpoints of the managing editor. It in no way commits the American Vocational Association, Inc.

WEIDENHOFF

Combination Generator and Magneto

TEST BENCH

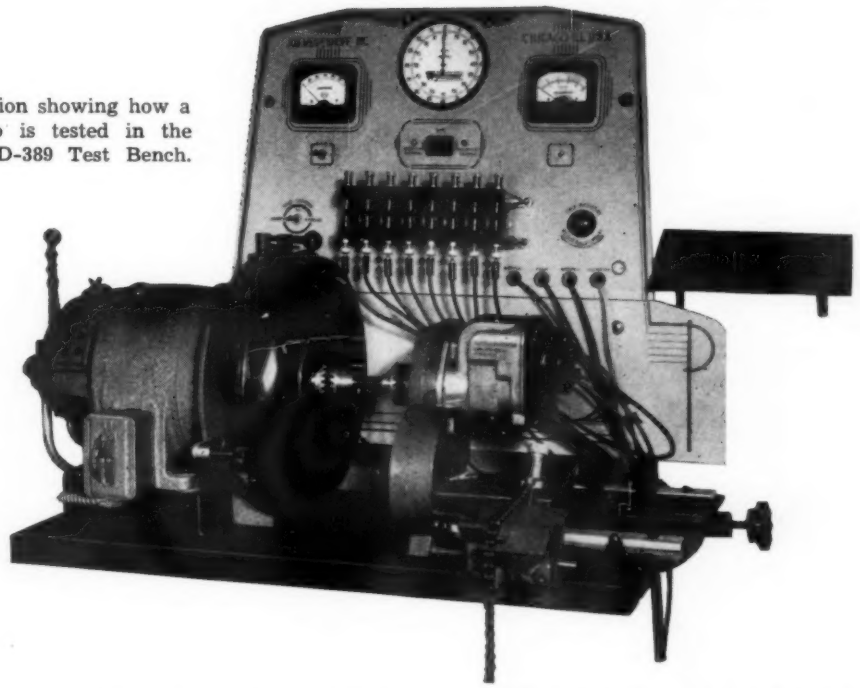


Illustration showing how a magneto is tested in the Model D-389 Test Bench.

- Tests every car and truck generator, flange mounted or belt-driven, up to the capacity of the motor.
- Tests generators and regulators.
- Tests generators without overloading by using field rheostat control.
- Drives generators for sanding commutators and seating brushes.
- Tests flange or base mounted magnetos — all types, except vertical, on tractors and stationary engines.
- Makes running tests of magnetos in rotary spark gap.
- Checks lag angle as well as throw-out speed of impulse couplings.
- Reduction gears allow speeds as low as 50 r.p.m., useful for checking throw-out speed of impulse couplings.
- Furnishes accurate means to check "coming in" speeds of magnetos.
- Tests vertical type magnetos, using Model D-347 vertical drive (optional).
- Ideal for the school shop teaching generator and magneto principles.

Send for Catalogs 54 and 55

ENGINE ANALYZERS • BATTERY CHARGERS • MAGNETO TESTERS

JOSEPH
WEIDENHOFF
INC.
CHICAGO 24, ILLINOIS

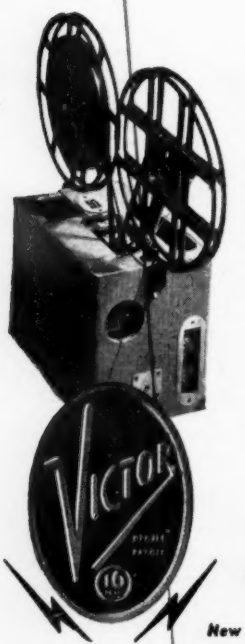
AUTOMOTIVE SERVICE EQUIPMENT WEIDENHOFF AVIATION

TEST BENCHES • ELECTRICAL TESTING AND SERVICE EQUIPMENT

VICTOR — the best in 16mm Sound Motion Picture Equipment

Teaching--touched with magic

STATISTICS AND STORIES COME ALIVE WHEN YOU USE 16mm SOUND MOTION PICTURE EQUIPMENT IN YOUR CLASSES



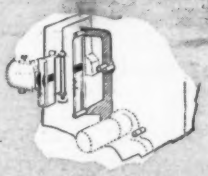
Children and grown-ups alike respond with greater attention to Sight — Sound — Sequence. Add interest and lasting understanding with sound movies in college or "the little red school house." Show-How is Know-How.

To give utmost brilliance and sound fidelity to educational films, VICTOR PROJECTORS (with many exclusive qualities and safety features) make the ideal choice for a well-equipped visual-education department.

Write today for a demonstration. No obligation, of course.

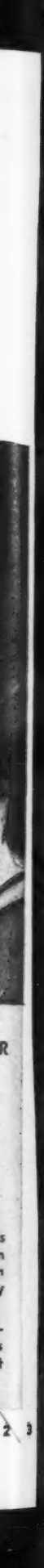
VICTOR
ANIMATOGRAPH CORPORATION
Home Office and Factory: Davenport, Iowa
New York (18), 330 W. 42nd St. • Chicago (11), 188 W. Randolph

THINGS TO THINK ABOUT WHEN BUYING A PROJECTOR



SAFETY FILM TRIP

Positive protection for your valuable film is provided by VICTOR'S exclusive Safety Film Trip. It stops machine instantly should film loop be lost or if projector is incorrectly threaded.

Check these other valuable features: Stationary Sound Drum — 180° Swing-out Lens Mount — Prefocussed, Straight-Line Light Beam.

MAKERS OF 16MM EQUIPMENT SINCE 1923